D.D.H. GEOMANAGEMENT LTD.

GEOLOGICAL, DIAMOND DRILLING AND TRENCHING RESULTS

FROM THE 1988 EXPLORATION PROGRAM ON THE

FORKS 1 - 4, AR 1 - 2, TEP 1 - 3 CLAIMS

Cariboo Mining Division
MacKay River Area, British Columbia
52° 23' North / 120° 44' West
NTS 93A/7

BY

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January 10, 1989

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ARIS SUMMARY SHEET

District Geologist, Prince George Off Confidential: 90.02.20

ASSESSMENT REPORT 18471 MINING DIVISION: Cariboo

PROPERTY: Forks
LOCATION: LAT 52 23 00 LONG 120 44 00
UTM 10 5805874 654270
NTS 093A07W 093A07E

CAMP: 036 Cariboo - Quesnel Belt

CLAIM(S): Tep 1-3,Forks 1-4,Ar 1-2
OPERATOR(S): Armada Gold and Min.
AUTHOR(S): Howard, D.A.
REPORT YEAR: 1989, 99 Pages
COMMODITIES SEARCHED FOR: Gold
KEYWORDS: Triassic,Quesnel River Group,Phyllites,Tuffs,Gold
WORK DONE: Drilling,Geological,Physical,Geochemical
DIAD 918.0 m 5 hole(s);HQ
GEOL 4275.0 ha
Map(s) - 4; Scale(s) - 1:500,1:5000,1:10 000
SAMP 586 sample(s) ;AU,AG,ME
TREN 795.0 m 9 trench(es)

RELATED REPORTS: 16961
MINFILE: 093A

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SUMMARY

The Forks 1-4, AR 1-2 and TEP 1-3 mineral claims, held under option by Armada Gold and Minerals Ltd., are located approximately 110 kilometres east of Williams Lake in central British Columbia. The centre of the claim group is situated at the confluence of the North Fork of the Horsefly River and the MacKay River. Coordinates are 52° 23' North, 120° 44' West, N.T.S. 93A/7.

The 171 unit claim block is underlain by a complex suite of black phyllites, tuffs and sediments that have been assigned to the Middle to Late Triassic Quesnel River Group.

During the 1988 field season a program of extensive trenching coupled with 918 metre diamond drill program resulted in a major new gold discovery on the TEP-1 mineral claim. Chip/channel sampling of the mineralized zone in the discovery trench (Trench - 8) yielded a weighted assay of 0.110 ounces gold per ton over 13 metres. Within the zone the assays ranged from nil to 0.985 O.P.T. over 2 metres. Diamond drilling of the zone below the discovery trench yielded lower grades over narrower widths, but still confirmed the presence of a wide gold bearing zone.

Original and check assays within the mineralized zone indicate a very erratic distribution of gold values which suggests that the deposit has a serious nugget effect.

The new mineralized zone is characterized by a high percentage of boudinaged quartz veins with minor sulphide and iron carbonates hosted in a graphitic and locally sheared phyllite within a more massive type porphyroblastic phyllite. The character, type and probable stratigraphic position of gold mineralization in the new zone is identical to that found on the adjoining Eureka/Southlands/Sirius property. Geologic mapping and trenching shows that the favourable porphyroblastic phyllite (Unit 4) is present across the property for a distance of 8 kilometres.

Thick transported glacial overburden plus a high percentage of graphite in the underlying black phyllite unit precludes any exploration method other than drilling. A program of diamond drilling along the strike of the porphyroblastic phyllite is recommended.

INTRODUCTION

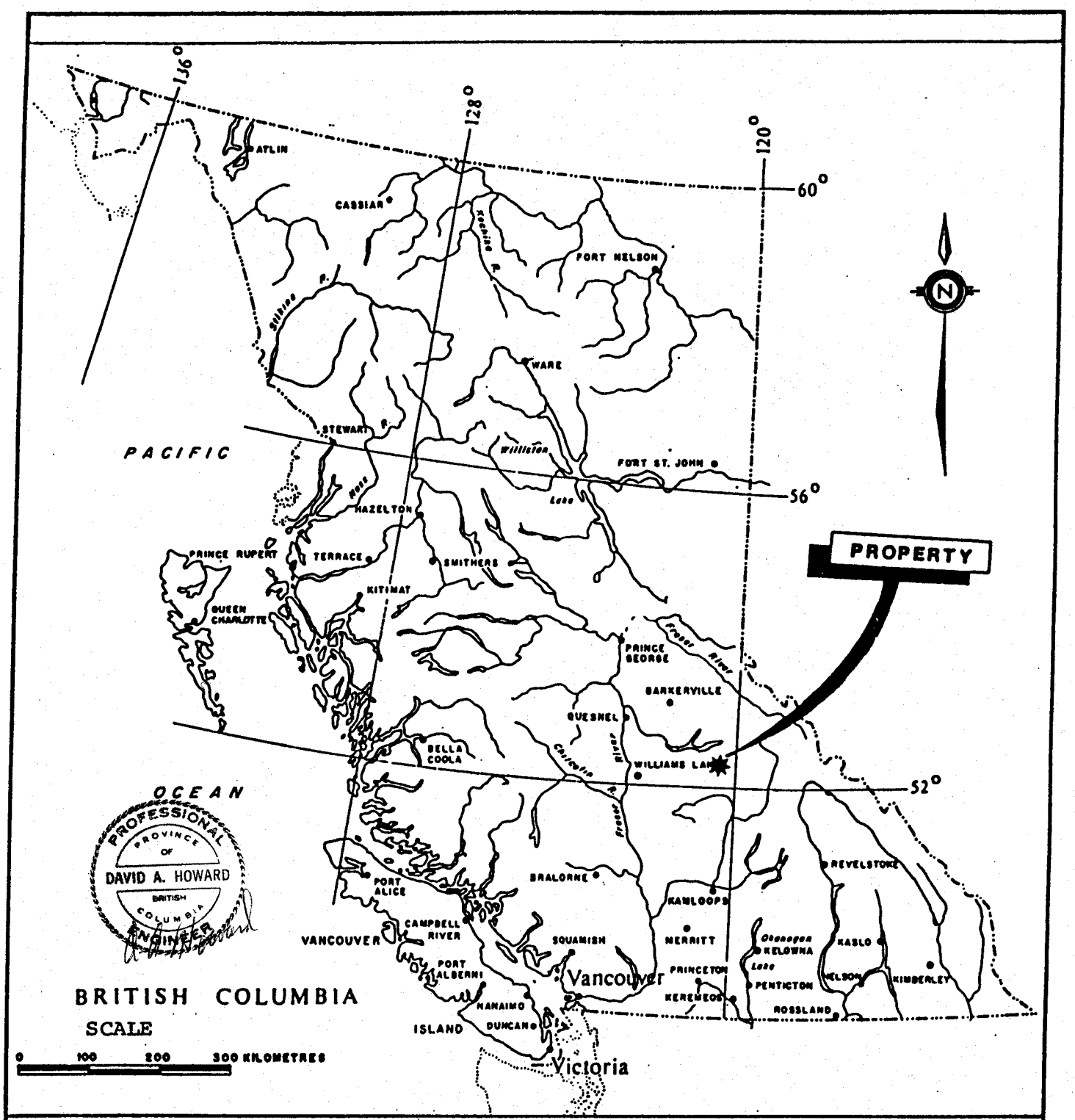
The firm of D.D.H. Geomanagement Ltd. was commissioned by the directors of Armada Gold and Minerals Ltd. to supervise an extensive exploration program consisting of geologic mapping, trenching, sampling and diamond drilling on the Forks, AR and TEP claim groups. The program was staged to allow evaluation of the trenching and geologic mapping results prior to commencement of the 918 metre diamond drill program.

The field work upon which this report is based was conducted during the period 18 July to 13 December, 1988.

The geologic portion of this report consists of a refinement of the overall geologic picture as presented in the 1987 assessment year report titled "Geological and Geochemical Report on the Forks 1-4, AR 1-2, TEP 1-3 Claim" (Howard, February 10, 1988). Due to the similarities of the report it is necessary to include much of the material from the earlier report to maintain the present report in a correct form, i.e. Location and Access, Property and Title, History and Regional Geological Setting.

LOCATION AND ACCESS

The Forks 1-4, AR 1-2 and TEP 1-3 mineral claims are centred at the confluence of the MacKay River with the north fork of the Horsefly River approximately 110 kilometres east of Williams Lake in Central British Columbia. Coordinates of the confluence of the two rivers is 52° 23' North Latitude and 120° 44' West Longitude. N.T.S. area is 93A/7 (see Figures 1 and 2).



ARMADA GOLD AND MINERALS LTD

FORKS 1-4, AR 1-2, TEP 1-3 MINERAL CLAIMS

REGIONAL LOCATION MAP

D.D.H. GEOMANAGEMENT LTD.

FIGURE 1

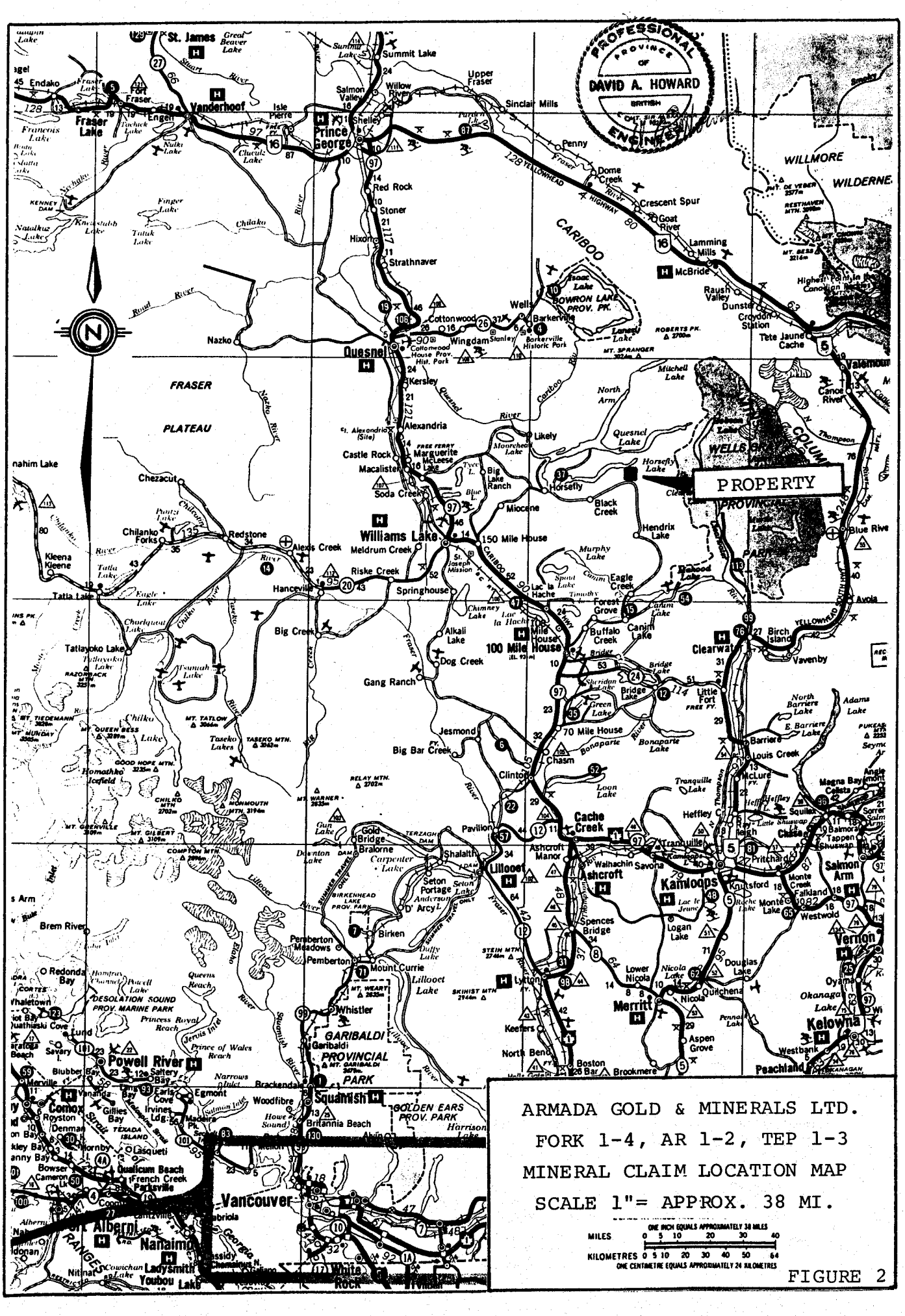

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
DAVID A. HOWARD
PROPERTY
ARMADA GOLD & MINERALS LTD.
FORK 1-4, AR 1-2, TEP 1-3
MINERAL CLAIM LOCATION MAP
SCALE 1"= APPROX. 38 MI.
ONE INCH EQUALS APPROXIMATELY 38 MILES
MILES 0 5 10 20 30 40
KILOMETRES 0 5 10 20 30 40 50 64
ONE CENTIMETRE EQUALS APPROXIMATELY 24 KILOMETRES

FIGURE 2

Access to the property is via paved and graveled road, namely 104 kms from 100 Mile House, B.C. or about 90 kms due east of Williams Lake, B.C. Distance along Highway 97 from Vancouver, B.C. to Williams Lake, B.C. is 334 kms. There is scheduled air service between Vancouver and Williams Lake, B.C. Within the project area, logging roads allow two-wheel drive access to most parts of the claim group.

The claims lie along MacKay Creek (elevation 3,400 ft. at a.s.l. - 1,030 m) through Archie Pass (elevation 3,600 ft. a.s.l. - 1,091 m) to Horsefly Lake (elevation 2,580 ft. a.s.l. - 784 m). Local relief is abrupt with Eureka Peak having an elevation of 8,012 feet (2,428 m).

Most of the property has been logged but those areas not yet logged are covered with fir, spruce, balsam, cedar, and thick underbrush.

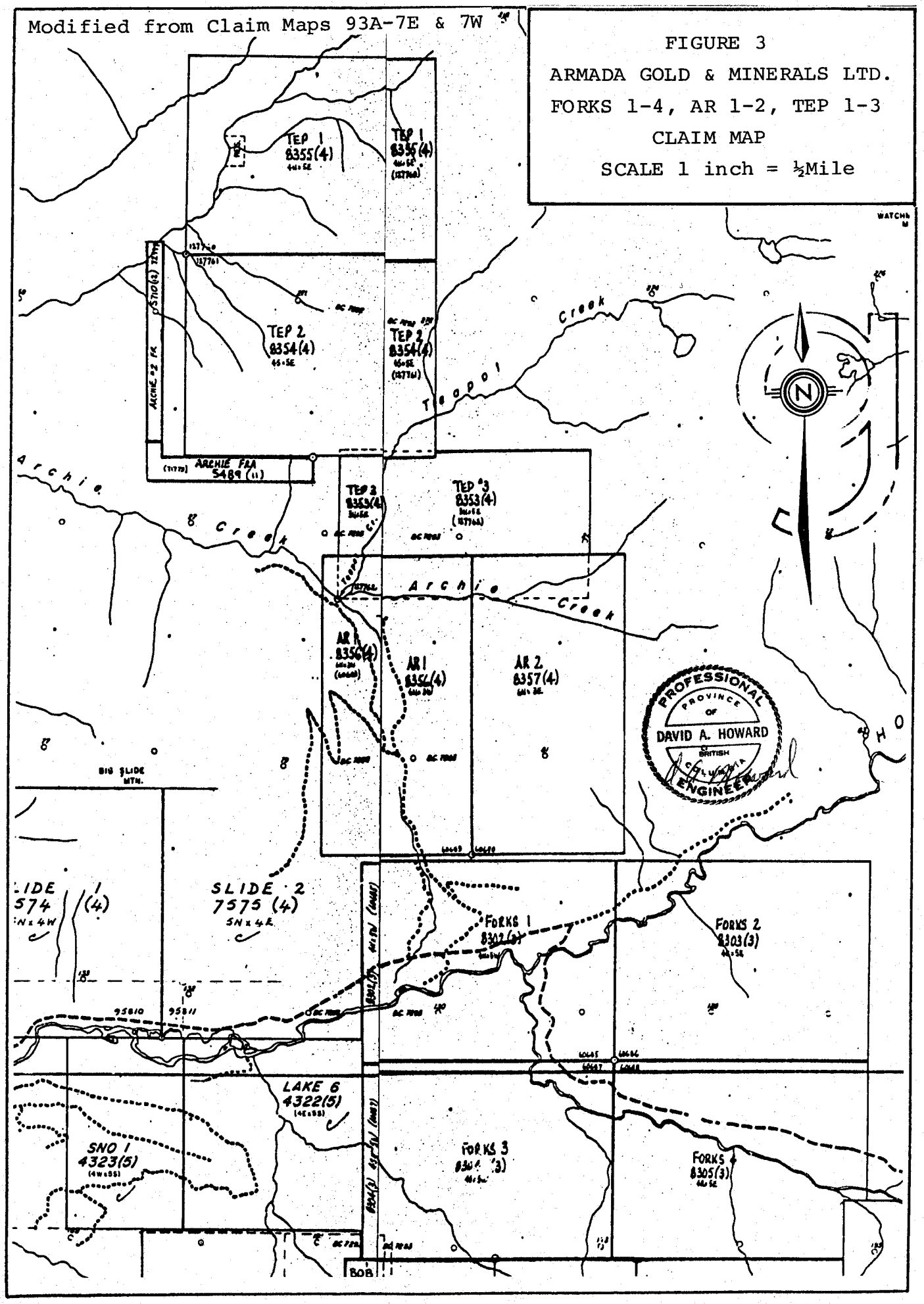
PROPERTY AND TITLE

The Forks 1-4, AR 1-2 and TEP 1-3 mineral claims are held under option agreement between Armada Gold and Minerals Ltd. and Messers. C.E. Gunn, D.A. Howard and A.D. Drummond.

The property is comprised of seven (7) mineral claims containing 171 claim units as follows (see Figure 3).

Claim	No. of Units	Record No.	Date Recorded	Registered* Owner
FORKS 1	20	8302	March 19, 1987	Armada Gold and Minerals Ltd.
FORKS 2	20	8303	March 19, 1987	Armada Gold and Minerals Ltd.
FORKS 3	20	8304	March 19, 1987	Armada Gold and Minerals Ltd.
FORKS 4	20	8305	March 19, 1987	Armada Gold and Minerals Ltd.
AR 1	18	8356	April 16, 1987	Armada Gold and Minerals Ltd.
AR 2	18	8357	April 16, 1987	Armada Gold and Minerals Ltd.
TEP 1	20	8355	April 16, 1987	Armada Gold and Minerals Ltd.
TEP 2	20	8354	April 16, 1987	Armada Gold and Minerals Ltd.
TEP 3	15	8353	April 16, 1987	Armada Gold and Minerals Ltd.

* A bill of sale for 50 percent of the property is held in trust in favour of Armada Gold and Minerals Ltd. subject to completion of the terms as set out in the option agreement.


Modified from Claim Maps 93A-7E & 7W
FIGURE 3
ARMADA GOLD & MINERALS LTD.
FORKS 1-4, AR 1-2, TEP 1-3
CLAIM MAP
SCALE 1 inch = ½Mile
TEP 1
8355(4)
TEP 2
8354(4)
TEP 3
8353(4)
ARCHIE FRA
5489 (1)
AR
8356(4)
AR 1
8356(4)
AR 2
8357(4)
Archie Creek
Trapper Creek
Creek
N
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
DAVID A. HOWARD
BIG SLIDE MTN.
SLIDE 2
7575 (4)
5N x 4E
FORKS 1
8302(3)
FORKS 2
8303(3)
FORKS 3
FORKS 4
8305(3)
LAKE 6
4322(5)
SNO 1
4323(5)
95810
95811
BOB

HISTORY

Early work in the MacKay River Valley area dates from 1901 when prospectors panned the creeks for gold. Small operations evaluating the pyrite bearing quartz veins and the gravels on Fraser and Eureka Creek were started in 1902 but discontinued in 1903. Later work in the early 1930's reported placer gold at and below the Forks of the Horsefly River and in the MacKay River - Horsefly River area.

Exploration for copper mineralization in this vicinity was conducted from the mid-1960's to mid - 1970's by such companies as Amax, Union Miniere, Rio Tinto and Helicon Explorations.

The Alpha and Kay claims were staked by C.E. Gunn in 1978 and 1979 on the north side of upper MacKay River valley and on Frasergold Creek. In the fall of 1979 these claims were optioned to Keron Holdings Ltd. who acquired additional claims, conducted soil and rock chip sampling and geological surveys up to 1982 when the claims were transferred to Eureka Resources, Inc. Amoco Canada Petroleum Co. Ltd. optioned the property from Eureka in 1983. Work by Amoco consisted of 2,874.7 meters of NQ diamond drilling (9 holes), grid preparation, soil sampling, magnetometer and electromagnetic surveys. The results of this work to 1984 indicated potential for 3 types of economic deposit: 1) small high-grade types of deposit over widths of 1.5 meters grading 0.2 to 1.50 oz/t gold; 2) medium sized reserves over widths of 3-10 meters grading 0.07 to 0.20 oz/t gold; and 3) large volumes of reserves over widths of 6 - 20 meters grading 0.02 to 0.07 oz/t gold (Eureka Resources, Inc., Annual Report, 1984). Eureka indicated that 1.6 kilometers of strike length of the anomalous zone had been drill tested; the length of the zone is in excess of 4 kilometers. In April, 1985 Eureka Resources, Inc. negotiated an agreement with Amoco Canada to assume total equity interest in the Frasergold property (GCNL, April 10, 1985). On March 30, 1987 Southlands Mining Corporation of Vancouver entered into a joint venture agreement with Eureka Resources, Inc. to earn a 50% working interest in the property by funding a minimum of $3 million in development of the property.

The Armada claims adjoin the Eureka/Southland/Sirius property on the northward on-strike extension of this favourable gold bearing strata. Prior to acquisition by Armada, exploration on this ground was in part conducted by Ripple Resources Ltd. (on Forks 3, 4). The work included soil sampling and one BQ drill hole on the north limb of the Eureka Syncline. The hole was drilled on a low order gold soil anomaly and encountered pyrite, pyrrhotite and chalcopyrite in andesitic tuff (Belik, 1983). In 1982, Dennison Mines Ltd. held the ground presently covered by the area of the Forks 1, 2, 3 and 4. They completed a geochemical soil survey for copper lead, zinc and silver but not for gold.

On the immediate southeast of Forks 4, the former LL No. 1 claim of Valhalla Minerals Inc. (now Mac 10 of Eureka Resources, Inc.) was the site of a geochemical soil survey which showed spot gold highs adjacent to the project area (Dawson, 1984).

During the 1987 field season Armada Gold and Minerals Ltd. conducted a program of soil/silt geochemistry and regional mapping of the present claim group.

REGIONAL GEOLOGICAL SETTING

Wheeler et. al. (1972) and others have proposed district groupings of tectonic elements for the Canadian Cordillera. These are outlined in Figure 4. The project area lies along the eastern margin of the Quesnel Trough adjacent to the more easterly Omineca Crystalline Belt (Omineca Geanticline).

Geological compilation of the Quesnel Lake 93A Map Sheet was done by Campbell (1978) and summarized in Figure 5. Highly deformed amphibolite facies rocks of the Kaza Group (Unit 1 in Figure 5) lie to the east of the Pennsylvanian and/or Permian rocks of the Slide Mountain Group (Unit 3). These units form part of the Omineca Crystalline Belt in the project area. To the west lies the Quesnel Trough which at its base has an Upper Triassic phyllitic unit (Unit 6) overlain by Upper Triassic greenstone, augite porphyry breccia, tuff breccia with possible dykes and sills (Unit 8). These latter units are considered to be part of the Takla Group.

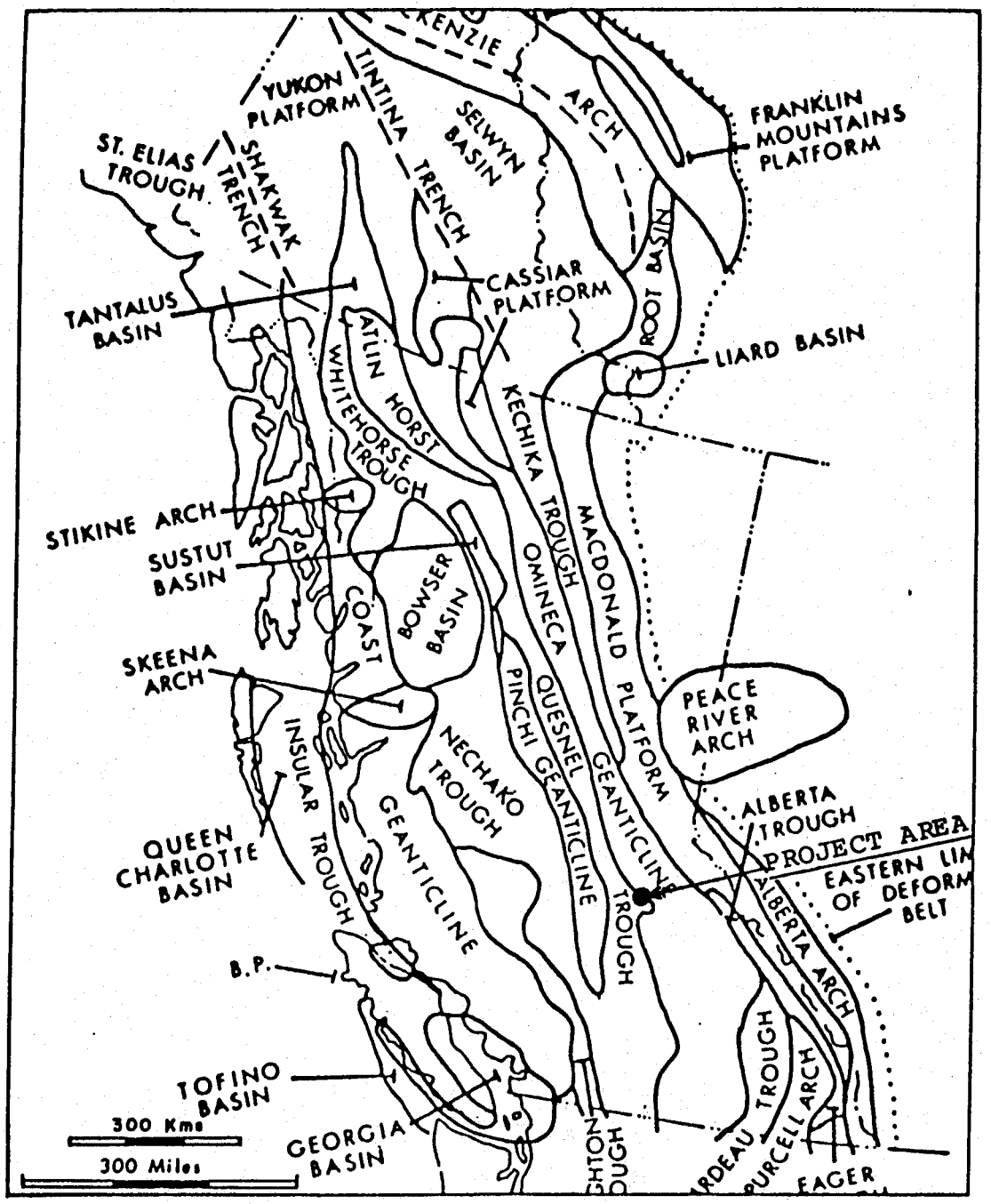


FIGURE 4

ARMADA GOLD & MINERALS LTD.

FORKS 1-4, AR 1-2. TEP 1-3 MINERAL CLAIMS

TECTONIC ELEMENTS OF THE CORDILLERA

(After Wheeler et al., 1972)

Intrusive activity has been dated from Upper Triassic (Unit 7) to Cretaceous (Unit 10) to Tertiary (Unit 11).

Recent mapping by Struik (1982a,b, 1983a,b, 1985b,c, 1986, 1987) of the Cariboo Mountains and Quesnel Highlands has resulted in a refinement of the divisions previously defined by Monger et. al. (1982) of the area into four stratigraphic and tectonically distinct terranes. Struik (1985) infers that the various terranes were thrust together and metmorphosed during the Jurassic, re-metamorphosed during mid-Cretaceous and subjected to dextrel strike-slip faulting from mid-Cretaceous to early Tertiary. The terranes going from east to west are the Cariboo (continental shelf clastics and carbonates), Barkerville (continental shelf clastics, carbonates and volcanics), Slide Mountain (oceanic rift volcanics, intrusives and clastics) and Quesnel (island arc volcanics and clastics) (Struik, 1986). Figure 6 shows the distribution of the various terranes and how they are structurally related to each other.

The various terranes are defined by either east dipping or west dipping thrust faults. The Armada property lies along and partially includes a portion of the Eureka Thrust (west dipping) that thrusts Quesnel terrane onto Barkerville.

The gold-bearing occurrences hosted by rocks within the Quesnel Trough are outlined in Figure 7 which also indicates the relative position of the stratabound gold project area. A brief description of the gold occurrences was reported by Saleken and Simpson 1984 and reproduced below:

> "In 1964, the Cariboo-Bell deposit was discovered 9 km southwest of Likely. Current drill indicated mineable reserves are 117-million tons grading 0.31% Cu and 0.012 oz/ton Au (including a higher grade zone totalling 30-million tons grading 0.38% Cu and 0.018 oz/ton Au). Mineralization is mainly confined to high level, intrusive breccia zones within an alkalic laccolith of early Jurassic age emplaced at the site of an Upper Triassic eruptive center.

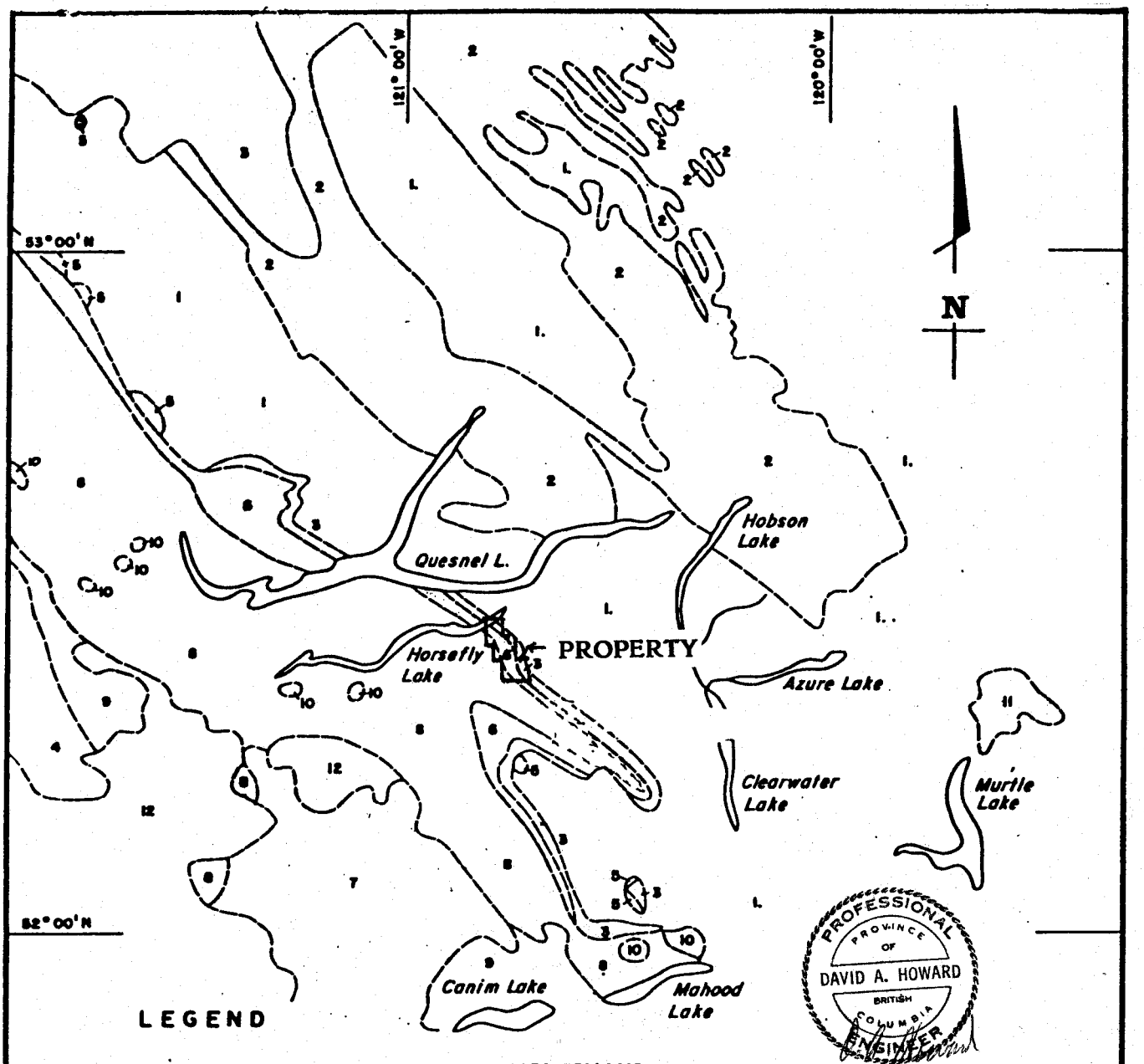
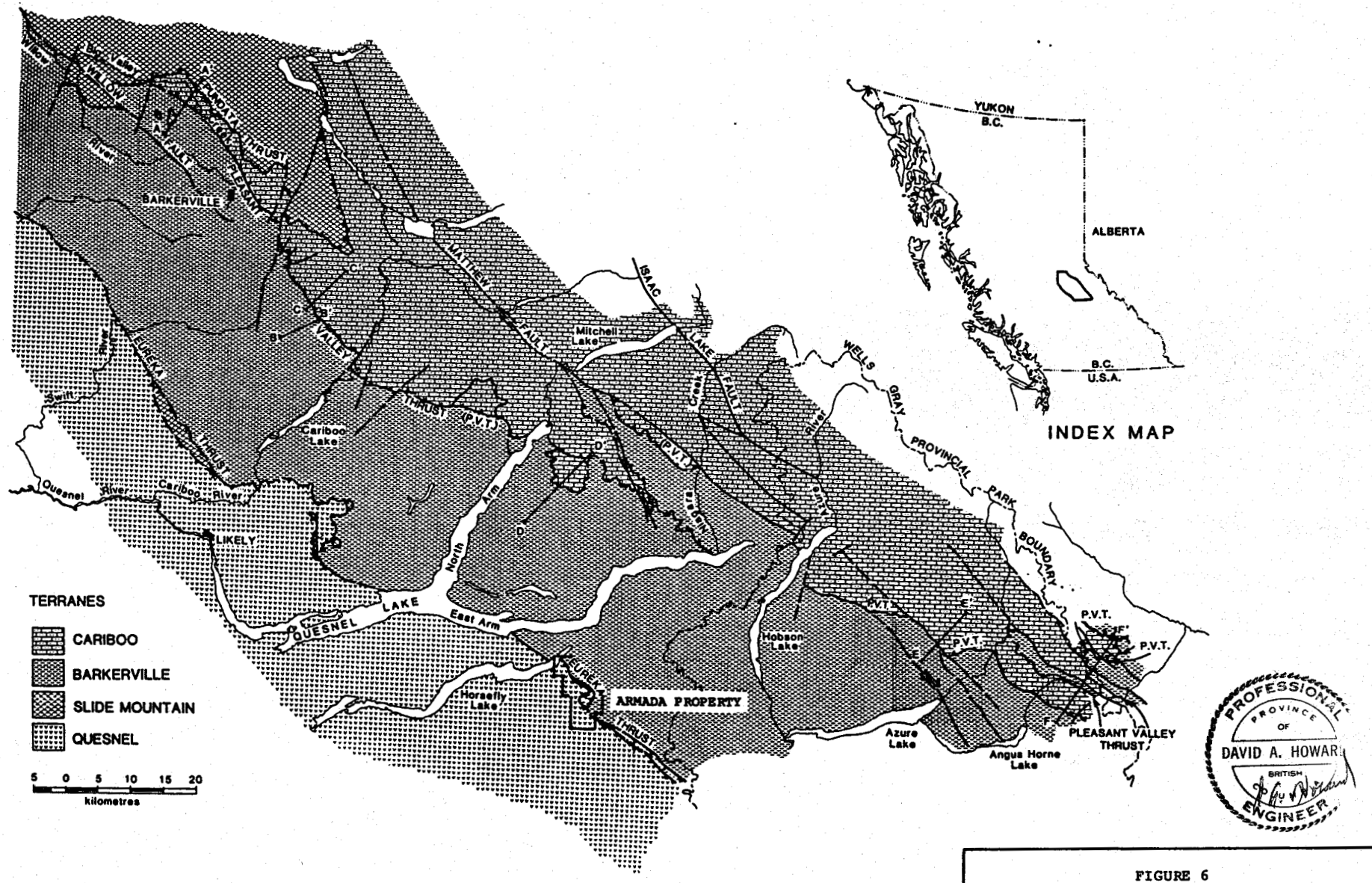


FIGURE 5

ARMADA GOLD & MINERALS LTD.

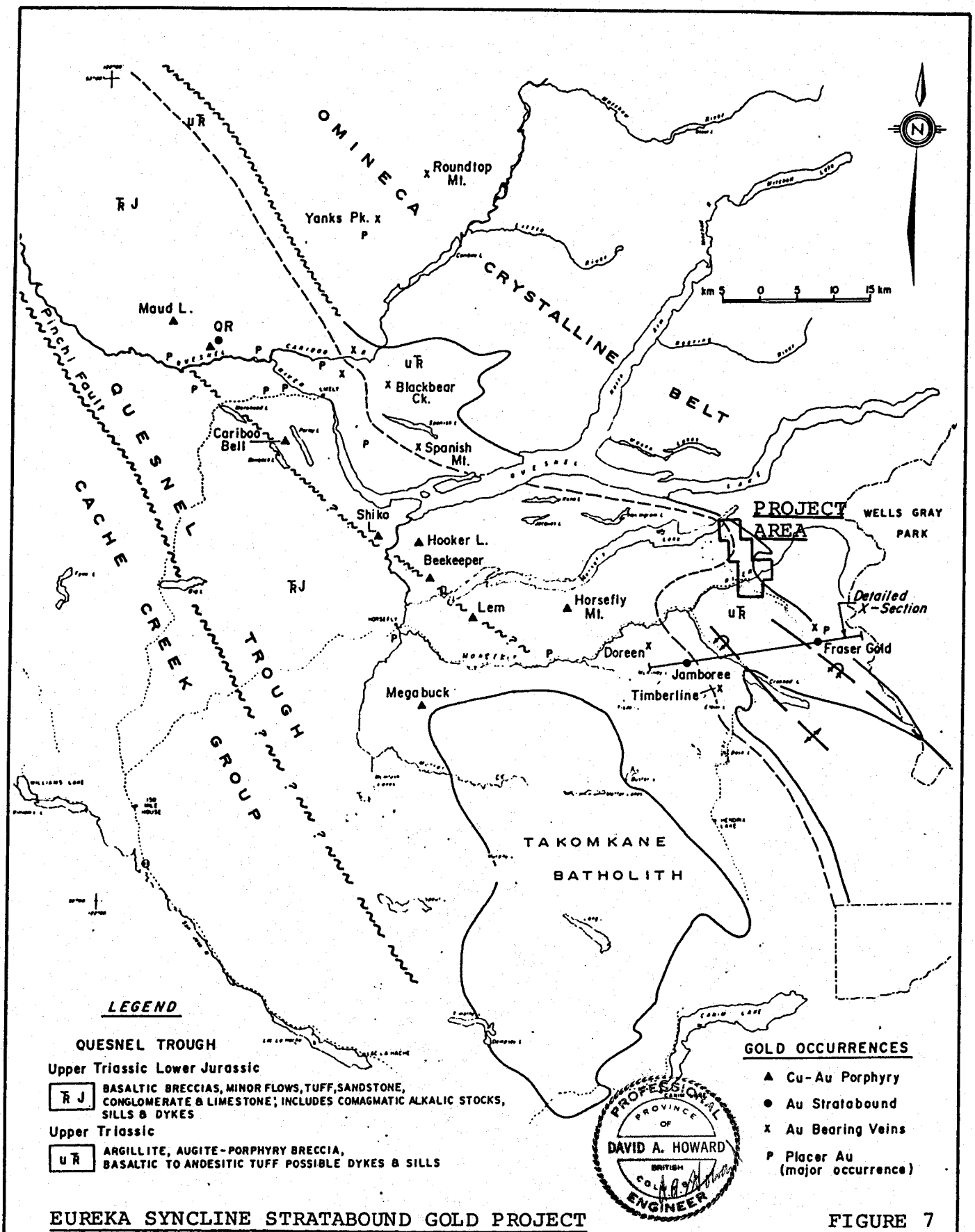
FORKS 1-4, AR 1-2, TEP 1-3 CLAIMS

REGIONAL GEOLOGY (After Campell, 1978 O.F. 574)



Pre-Jurassic terranes in an area of British Columbia shown by the inset map.

FIGURE 6
ARMADA GOLD & MINERALS LTD.
MAP SHOWINING LOCATION OF PROPERTY RELATIVE TO THE QUESNEL/SLIDE MOUNTAIN TERRANES
Modified from Struik (1986)



EUREKA SYNCLINE STRATABOUND GOLD PROJECT

FIGURE 7

GEOLOGY OF THE QUESNEL TROUGH SHOWING THE RELATIVE LOCATION OF GOLD OCCURRENCES TO THE STRATABOUND GOLD PROJECT AREA.

(Modified after Saleken and Simpson, 1984)

During the early 1970's most of the known Jurassic alkalic plutons in the Likely-Horsefly area were staked and explored for similar copper-gold mineralization. Though most were found to contain some auriferous chalcopyrite mineralization in stockwork or disseminated deposits, none proved to be significant in size or grade. It was during the investigation of one of these comagmatic stocks that the QR deposit was discovered in the late 1970's. Gold mineralization was found associated with a pyrite-epidote zone in basaltic breccia flanking a zoned alkalic stock. The mineralized horizon occurs immediately below a sedimentary contact and above a strongly carbonatized zone (Fox 1983). Drill indicated reserves have been reported as 950,000 tons grading 0.21 oz/ton Au (CMH 1982-83).

During the renewed exploration activity in the 1980s other, seemingly stratabound, gold occurrences have been discovered in the eastern Quesnel Trough. Near Frasergold Creek, Eureka Resources has reported drill indicated reserves of 11-million tons grading between 0.04 and 0.05 oz/ton Au (NAGMIN January 15, 1984). Here, gold-pyrite mineralization occurs along an iron-carbonate rich horizon within the Upper Triassic argillite sequence which has been highly deformed and metamorphosed to phyllite (Belik, 1982). The Jamboree property, northwest of Crooked Lake, hosts a stratabound, anomalous gold horizon in tuffaceous phyllite immediately above a contact with the augite porphyry breccia unit.

Saleken and Simpson (1984) in reviewing the gold occurrences of the Quesnel Trough characterize the Eureka Resources / Southlands Mining Corporation Frasergold deposit which adjoins the Armada property as a stratabound gold deposit. Figure 8a illustrates the relative stratigraphic position while Figure 8b illustrates the relative position within the Eureka syncline of the stratabound gold horizon (Frasergold) the western slope of the MacKay River valley (the cross-section line is indicated in Figure 7).

The geological continuity to the northwest along MacKay River to Horsefly Lake is confirmed by the mapping of Bloodgood (1987) who correlated the stratigraphy of the eastern limb of the Eureka syncline from Frasergold Creek to Horsefly Lake (see Figure 9).

EUREKA SYNCLINE STRATABOUND GOLD PROJECT

RELATIVE POSITION OF THE FRASERGOLD STRATABOUND GOLD DEPOSIT

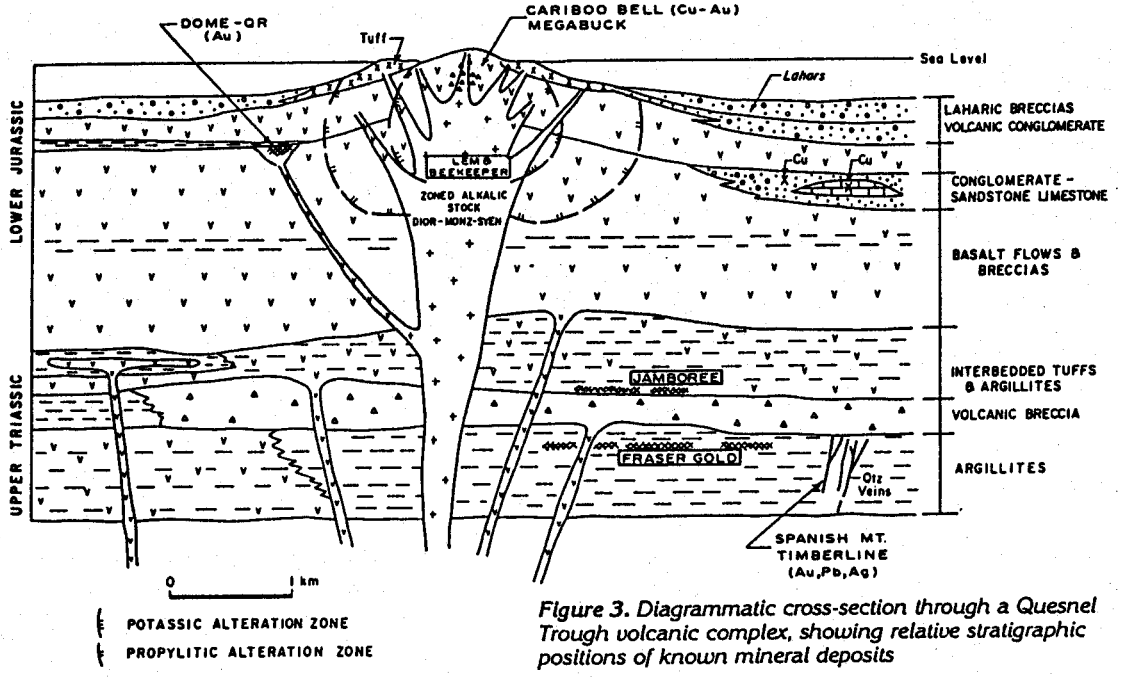


Figure 3. Diagrammatic cross-section through a Quesnel Trough volcanic complex, showing relative stratigraphic positions of known mineral deposits

FIGURE 8a RELATIVE POSITION IN STRATIGRAPHIC COLUMN
(After Saleken and Simpson, 1984, Figure 3)

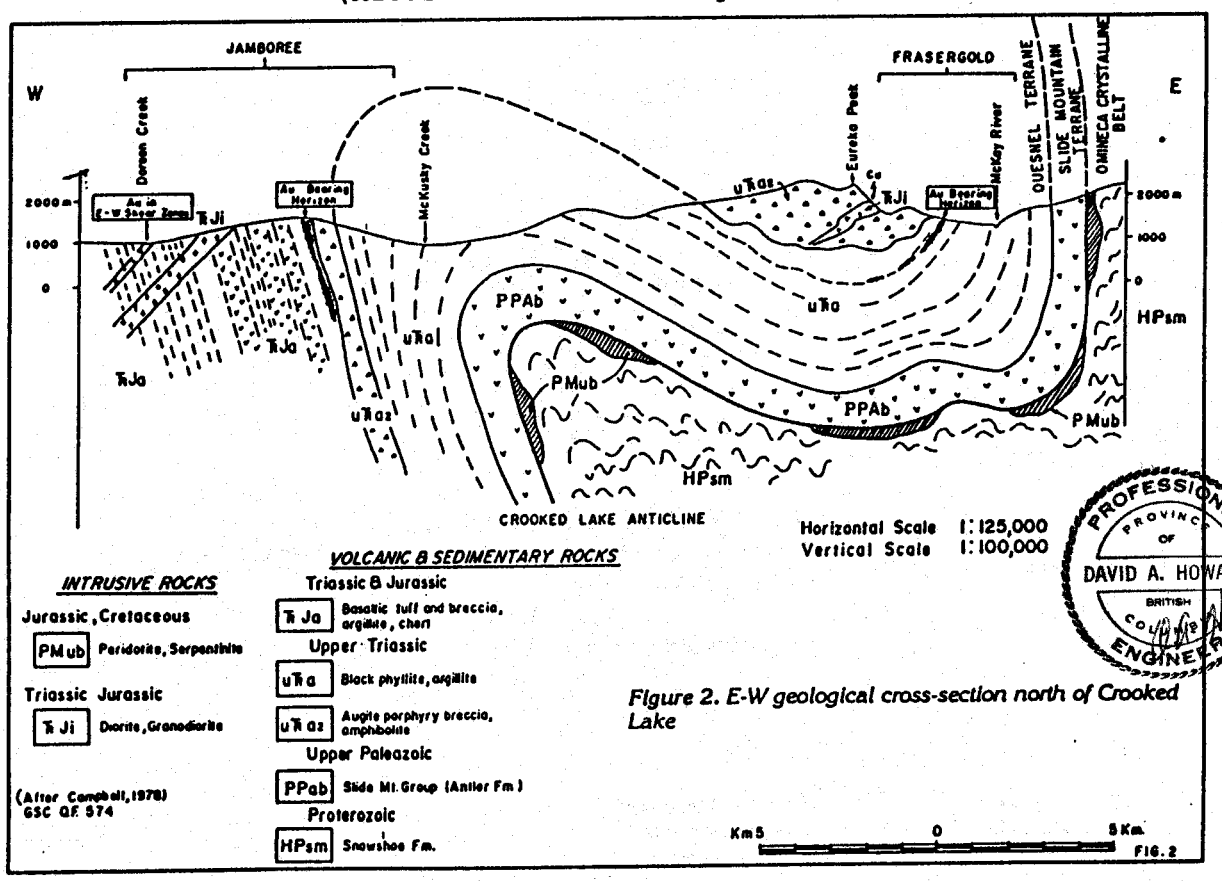
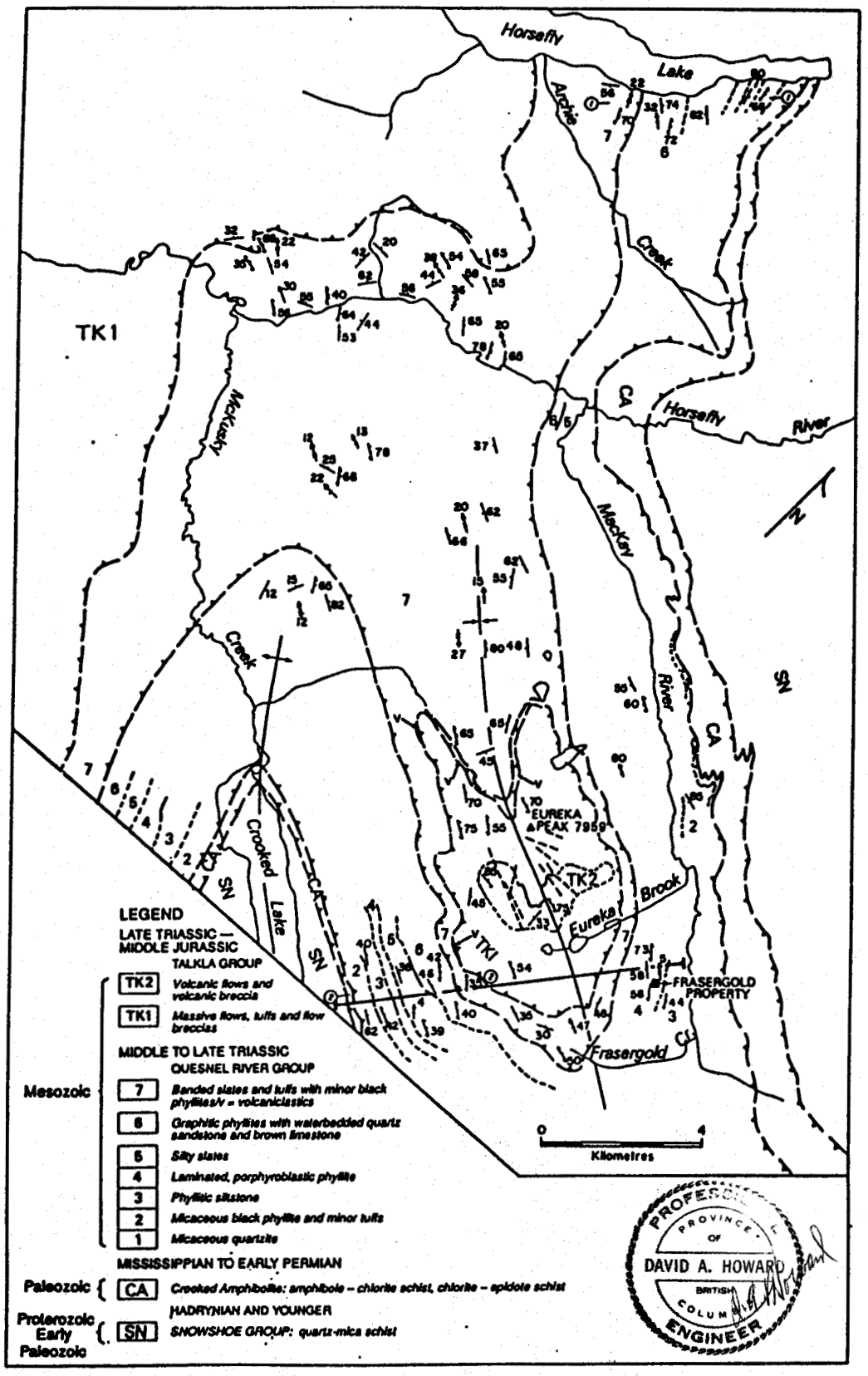


Figure 2. E-W geological cross-section north of Crooked Lake

FIGURE 8b POSITION RELATIVE TO THE EAST LIMB OF THE EUREKA SYNCLINE
(After Saleken and Simpson, 1984, Figure 2)



EUREKA SYNCLINE STRATABOUND GOLD PROJECT

FIGURE 9 GENERALIZED GEOLOGY OF EUREKA PEAK AREA SHOWING THE EAST LIMB CONTINUITY BETWEEN FRASERGOLD CREEK AND HORSEFLY LAKE.
(After Bloodgood, 1987, Figure 3-2-2, p. 136)

PROPERTY GEOLOGY

(1) General

Regional detailed geologic mapping of the Eureka Peak area by Ms. M.A. Bloodgood in 1984 and 1985 as part of a Masters Thesis / Canada / British Columbia Mineral Development Agreement provided the mapping / conceptual base upon which the 1987 (Howard, 1988) study was based. Bloodgood (1987) inferred that near identical stratigraphy within the black phyllite unit existed along strike from the recent gold discovery of the Frasergold property to the south shore of Horsefly Lake, a distance of approximately 25 kilometres.

Geologic mapping (Figure 10) by the writer (Howard, 1988) in 1987 and 1988 confirmed and expanded on the work of Bloodgood (1987). During the 1988 field season detailed mapping of the new trenches and logging roads on the claims and logging of drill holes further defined the distribution, structure and mineralization associated with the Black Phyllite unit.

(2) Geologic Setting

The Forks 1-4, AR 1-2 and TEP 1-3 mineral claims are mainly underlain by an unnamed black phyllite formation that has been assigned to the Middle to Late Triassic Quesnel River Group (Tipper, 1978; Campbell, 1978).

The oldest rocks exposed on the claim group are those of the Proterozoic to early Paleozoic Snowshoe Formation which crops out in a road cut (Bouldery Creek road) above the south shore of Horsefly Lake on TEP 1 (see Figure 10) and extend at least as far as Bouldery Creek. These rocks consist of fine to coarse grained, well foliated quartz-muscovite schist containing minor biotite and flattened garnets.

Overlying the Snowshoe Formation are rocks of the Mississippian to early Permian Crooked Amphibolite Formation. Unfortunately all contacts with this unit are covered in the map area. The Crooked Amphibolite defines the base of the Quesnel terrane (Bloodgood, 1988). According to Bloodgood (1988) the base of the Crooked

Amphibolite defines the Eureka Thrust but that relationship cannot be confirmed in the map area. The only exposure of Crooked Amphibolite on the property is located approximately 100 metres east of the Carlson Bridge (see Figure 10). At this location the Crooked Amphibolite consists of pale green to grey, fine-grained, banded well foliated biotite-chlorite-quartz schist. Foliation is defined by both the alignment of phyllosilicate minerals and discontinuous quartz/carbonate bands 2-20 mm in width. The contact between the unnamed black phyllite and the Crooked Amphibolite is covered by glacial debris.

The unnamed Black Phyllite Formation structurally overlies (thrust fault contact?) rocks of the Crooked Amphibolite Formation. This unnamed Black Phyllite Formation as defined by Bloodgood (1987a,b) consists of six or seven units depending upon the reference cited. The units from base to top are TR_{a1} (Unit 1) micaceous quartzite, TR_{a2} (Unit 2) micaceous black phyllite and tuffs, TR_{a3} (Unit 3) phyllitic siltstone, TR_{a4} (Unit 4) laminated phyllite and porphyroblastic phyllite, TR_{a5} (Unit 5) silty slates and TR_{a6} (Unit 6) graphitic black phyllites with interbedded quartz sandstone and limestone (Bloodgood, 1987b).

The following description of the various units in the unnamed black phyllite package is based on the writer's observations unless otherwise shown.

Unit 1 (TR_{a1})

The basal unit of the Black Phyllite Formation is exposed in two separate new road cuts on the AR-2 Mineral Claim (Figure 10 and 11). At the above locations the basal unit varies from a pale green to pale grey, very fine grained, well foliated sericite/muscovite phyllite to a slightly coarser grained muscovite schist or meta-quartzite. Locally the phyllite type is highly contorted and banded with quartz rich bands. Bedding is difficult to define but is probably more or less parallel to the foliation. The unit commonly exhibits buff to rust coloured weathering and is usually very soft and punky.

Unit 2 (TR_{a2})

Unit 2 rocks are well exposed along the MacKay River where it passes through Forks 4 (Figure 10). At this location Unit 2 consists of dark grey to silver grey, very fine grained, very siliceous, tightly foliated, locally pyritic and/or graphitic, moderate to high sheen phyllite. Locally the phyllite is poorly laminated, but in general it is impossible to define bedding because of the well developed cleavage/foliation. Unit 2 rocks are also well exposed in the new road cuts on the AR-2 mineral claim (Figure 10 and 11). At the location the rock type is identical to that exposed on Forks 4. The lower contact is well exposed and is defined by a narrow (20 cm) very carbonaceous zone that is parallel to the foliation.

Unit 3 (TR_{a3})

Unit 3 is well exposed along the Bouldery Creek road (Figures 10, 12) above Horsefly Lake (TEP 1), partially exposed in the lower part of No. 1 creek on Forks 4 (Figures 10 and 13) and along the new logging roads on AR-2 (Figure 11). The lower contact of Unit 3 is not exposed at either the Horsefly Lake or No. 1 creek locations, but is poorly exposed on the AR-2 road system. Unfortunately at this location the stratigraphic relationships between the various sub-units of Unit 3 are obscured by intense folding and numerous faults (see Figures 10 and 11). The lower portion of Unit 3 exposed on the Bouldery Creek road (TEP-1) consists mainly of medium dull grey, very fine grained, locally well laminated, moderately foliated, carbonaceous, very calcareous phyllite. The upper portion of Unit 3 at this location is a very siliceous, high sheen dark to silver grey phyllite that resembles Unit 2 above. The siliceous section compared to the calcareous section is relatively thin at this location, but is relatively thick in the AR claim block. This lack of uniformity between the various areas suggest to the writer that Unit 3 varies rapidly along strike, i.e. rapid facies change between carbonate and silica deposition. In contrast to the Unit 3 in the AR road section and Horsefly Lake section, Unit 3 at the No. 1 creek location is very siliceous (no carbonate) much more pyritic including bedded pyrite (1 mm beds of very fine grained pyrite) and contains several 1-3 metre beds of white quartzite (almost vein-like except they are conformable to bedding) containing thin bands of very fine grained sericite

phyllite. The quartzite-sericite phyllite bands (beds) commonly contain 1-3 percent finely disseminated pyrite and traces of chalcopyrite. A gold assay ran on the above material was negative.

The upper contact of Unit 3 and Unit 4 is exposed on the Bouldery Creek road and No. 1 Creek sections, but not on the AR claim block. The top of Unit 3 at the No. 1 creek location is marked by a thin unit (5-8 metres) of silver grey, very fine grained, silty, slightly carbonaceous, siliceous, well foliated, high sheen phyllite. Bedding is defined by hairline, highly contorted, white silty beds.

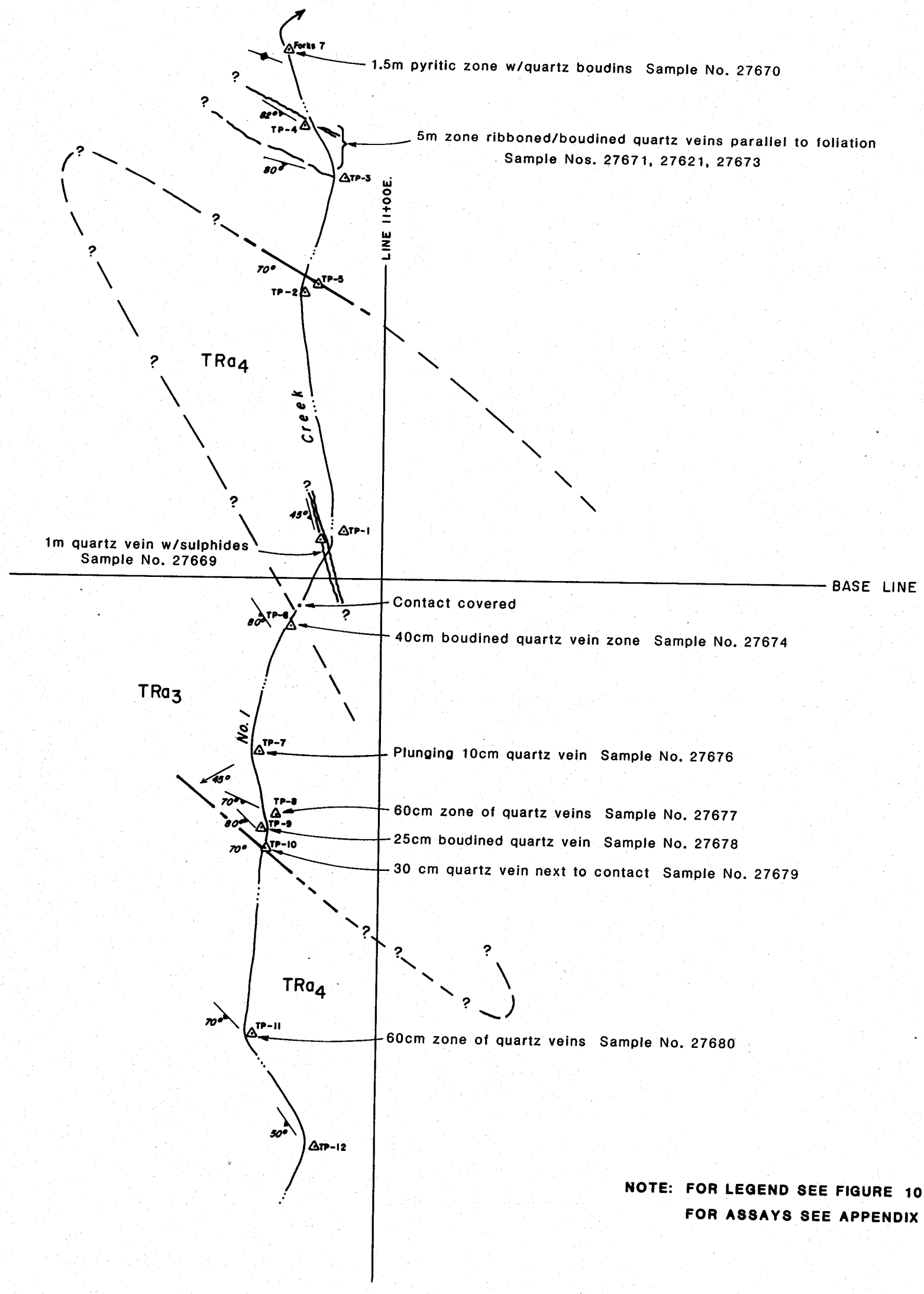
The top of Unit 3 is partially exposed at the north end of trench 8 (Figure 12) along the Bouldery Creek road. The contact zone is defined by a number of narrow (20 cm) limonitic sericitic quartz veins and thinly cleared, black, siliceous, moderately graphitic phyllite. The contact is parallel to foliation but has been partially disrupted by a small fault (see Figure 12). Due to this fault, it is questionable whether the contact is as described because the drill results suggest that a considerable thickness of Unit 4 has been faulted out at the surface exposure.

In detail there is little comparison between the contacts at the No. 1 Creek and Trench 8 locations. The Unit 3 phyllite at the No. 1 Creek location contains a much higher muscovite content and is much less graphitic than at the Horsefly Lake section.

Unit 4 (TR_{a4})

Trenching during the 1988 field season has exposed the entire Unit 4 section on the Bouldery Creek road (Figure 12) and partially exposed portion of the section on the Fork 4 mineral claim (Figures 13, 14, 15, 16, 17, 18, 19 and 20).

On a property wide basis, Unit 4 consists of medium grey to silver grey, very fine grained, well laminated, well foliated, locally well bedded, tightly folded, siliceous, locally pyritic (both pyrite and pyrrhotite) porphyroblastic (Knotted) phyllite. An X-ray diffraction scan by Ms. S.J. Horsky - U.B.C. of the porphyroblasts showed



NOTE: FOR LEGEND SEE FIGURE 10
FOR ASSAYS SEE APPENDIX "A".

△ Survey Point

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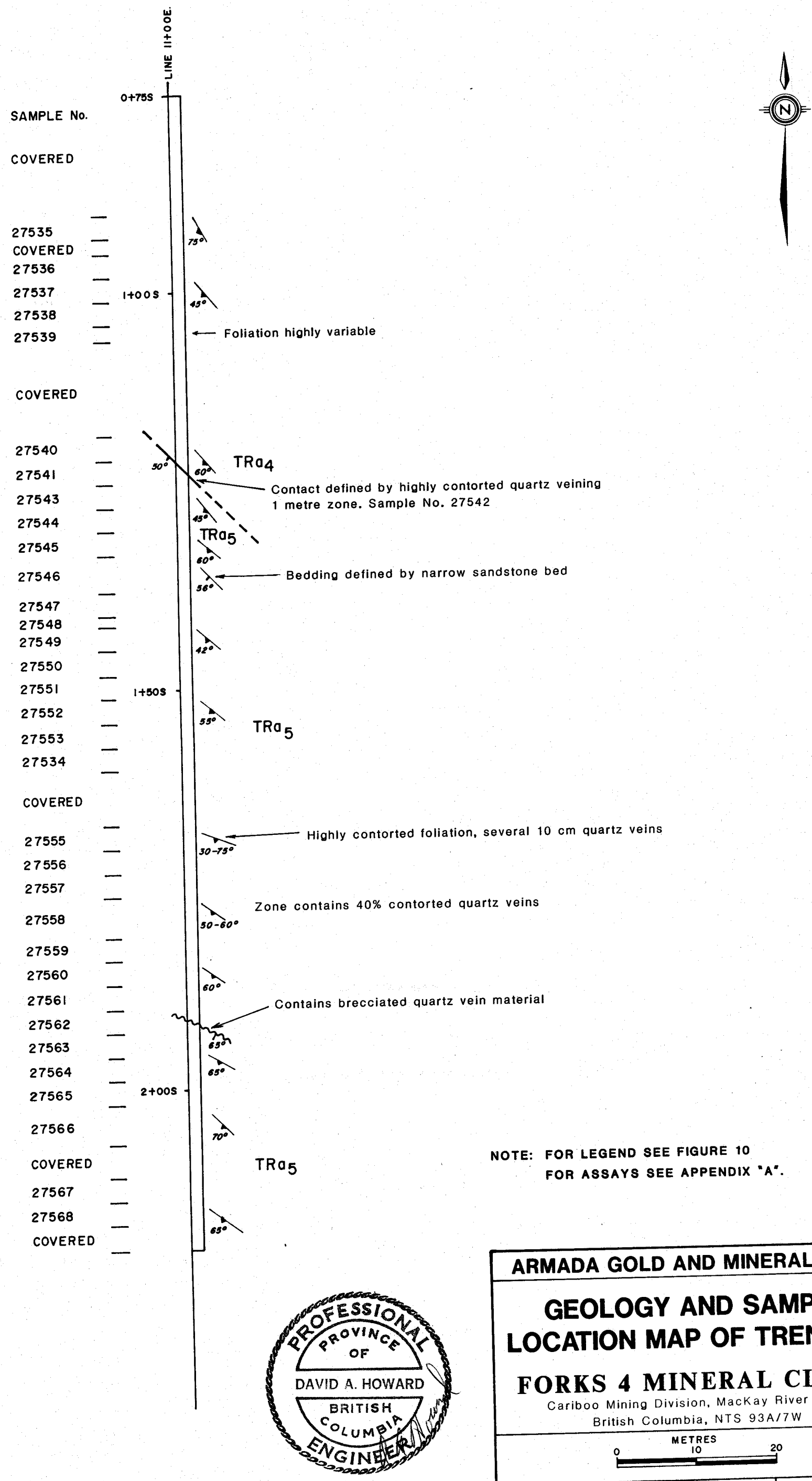
NO. 1 CREEK
GEOLOGY AND ASSAY MAP
FORKS 4 MINERAL CLAIM

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93A/7W

METRES
0 10 20

GEOLOGY BY:D.A.Howard, M.Sc.,P.Eng.	DATE: Oct., 1988
SCALE: 1 : 500	FIGURE No. 14

D.D.H. GEOMANAGEMENT LTD.



NOTE: FOR LEGEND SEE FIGURE 10
FOR ASSAYS SEE APPENDIX "A".

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GEOLOGY AND SAMPLE LOCATION MAP OF TRENCH 5

FORKS 4 MINERAL CLAIM

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93A/7W

METRES
0 10 20

GEOLOGY BY:D.A.Howard, M.Sc.,P.Eng.	DATE: Oct., 1988
SCALE: 1 : 500	FIGURE No. 15

D.D.H. GEOMANAGEMENT LTD.

LINE 14+00 E.

3+20S

Road

3+50S

SAMPLE No.

Bedrock not reached

27660

Partially exposed

27523
27522
27521

No Sample

4+00S

27520
27519
27518
27517

No Sample

27516
27515
(27514) 27513
27512
27511
27510
27509
27508
27507
27506
27505
27504

4+50S

65°
65°
51°
50°
50°
55°
55°
75°
87°

Identification of TRa4 in question because of lack of well developed porphyroblasts (knotts)

TRa4

Gradational contact (?) marked by a few flattened limonitic porphyroblasts

TRa5

1 - 70 cm quartz vein

10% Quartz vein

N

NOTE: FOR LEGEND SEE FIGURE 10

FOR ASSAYS SEE APPENDIX "A".

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TRENCH 4 GEOLOGY AND ASSAY LOCATION MAP GRID 1

FORKS 4 MINERAL CLAIM

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93A/7W

METRES
0 10 20

GEOLOGY BY:D.A.Howard, M.Sc.,P.Eng.	DATE: Oct., 1988
SCALE: 1 : 500	FIGURE No. 16

D.D.H. GEOMANAGEMENT LTD.

LINE 14+00E.

2+00S

SAMPLE No.

COVERED

27650

COVERED

27651

COVERED

27652 — 2+50S

COVERED

27653

COVERED

27654

COVERED

27655

27657

COVERED

27658

27659

27660

27661

27662

27663

27664

27665

COVERED

27667 — 3+00S

27668

COVERED

55°

TRa_{3s}

60°

Numerous quartz veins (1-15cm)

30°

30°

80°

35°

2m quartz vein - Sample No. 27656
Contacts parallel to foliation

65°

35°

Tight folding on dip plane

65°

65°

Sample No. 27663 of unit TRa4 only

TRa_{3s}

70°

D2U

TRa4

80°

1.5m limonitic gouge Very strong fault zone

55°

Looks like unit TRa5, no porphyroblasts

30°

N

NOTE: FOR LEGEND SEE FIGURE 10
FOR ASSAYS SEE APPENDIX "A".

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GEOLOGY AND SAMPLE LOCATION MAP OF TRENCH 9

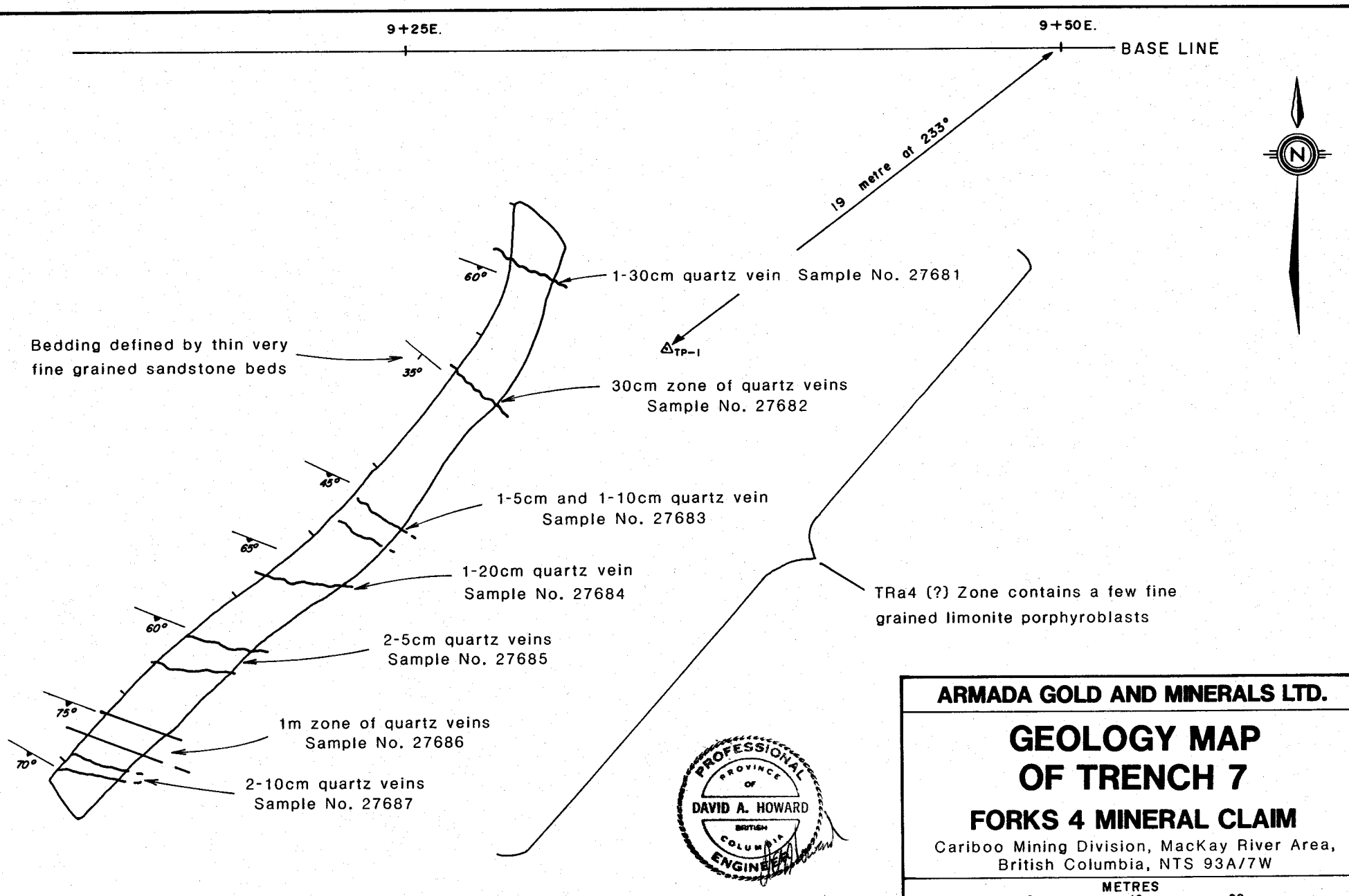
FORKS 4 MINERAL CLAIM

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93A/7W

METRES
0 10 20

GEOLOGY BY:D.A.Howard, M.Sc.,P.Eng.	DATE: Oct., 1988
SCALE: 1 : 500	FIGURE No. 17

D.D.H. GEOMANAGEMENT LTD.



NOTE: FOR LEGEND SEE FIGURE 10

FOR ASSAYS SEE APPENDIX "A".

ARMADA GOLD AND MINERALS LTD.

GEOLOGY MAP OF TRENCH 7

FORKS 4 MINERAL CLAIM

Cariboo Mining Division, MacKay River Area, British Columbia, NTS 93A/7W

METRES 0 10 20

GEOLOGY BY: D.A.Howard, M.Sc., P.Eng.	DATE: October, 1988
SCALE: 1:500	FIGURE No. 18

D.D.H. GEOMANAGEMENT LTD.

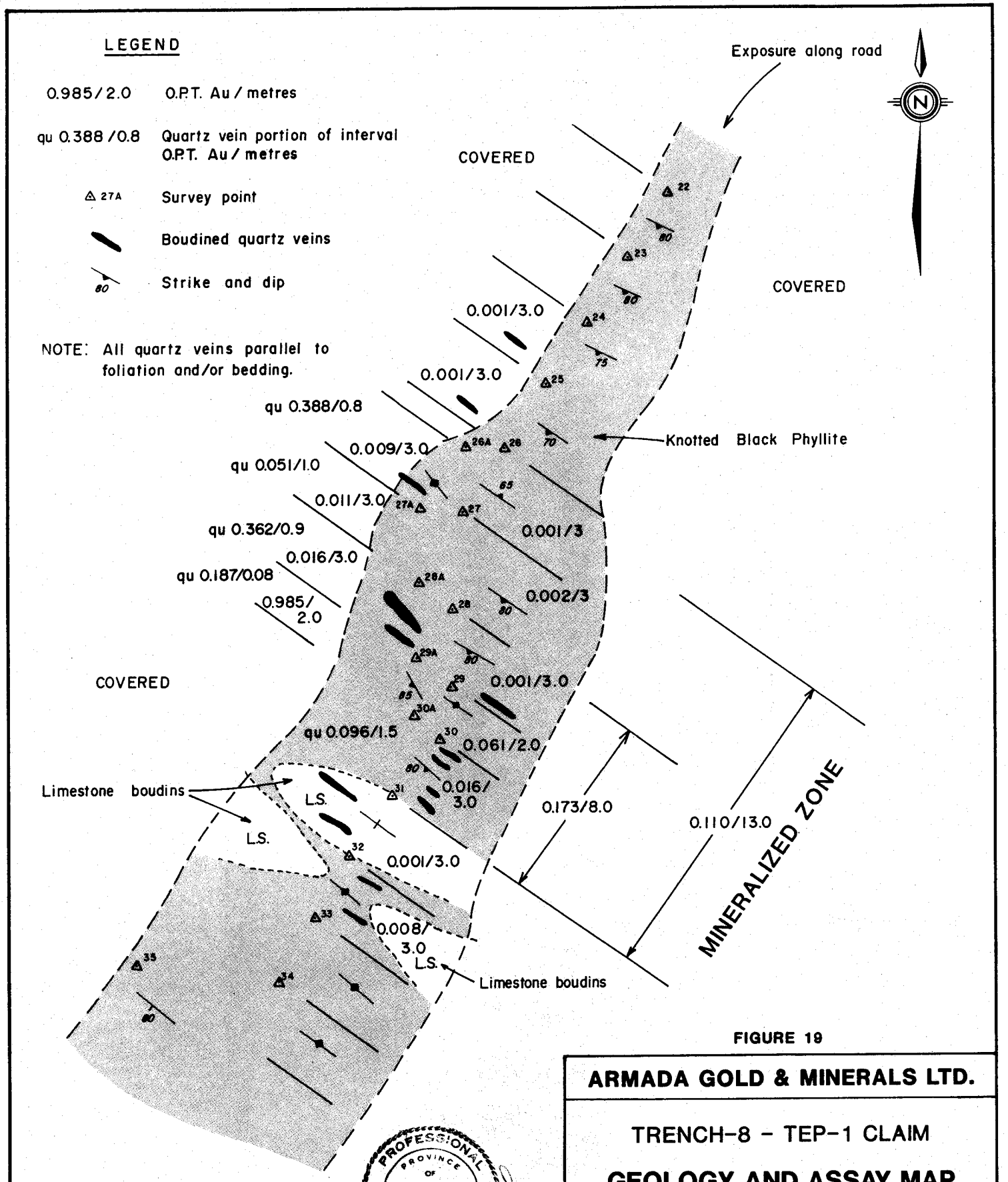


FIGURE 19

ARMADA GOLD & MINERALS LTD.

TRENCH-8 - TEP-1 CLAIM

GEOLOGY AND ASSAY MAP

SCALE: 1:200	DATE: OCT.,1988
REVISION:	GEOLOGY BY: D.A.H.

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DAVID A. HOWARD

that they are composed of sillimanite, graphite and andalusite. It is possible that the graphite is included within the andalusite (chiastolite). The presence of sillimanite suggests that the metamorphic grade at least within the porphyroblastic phyllite is much higher than previously thought. The porphyroblasts commonly weather to iron oxides which give the rock a speckled appearance.

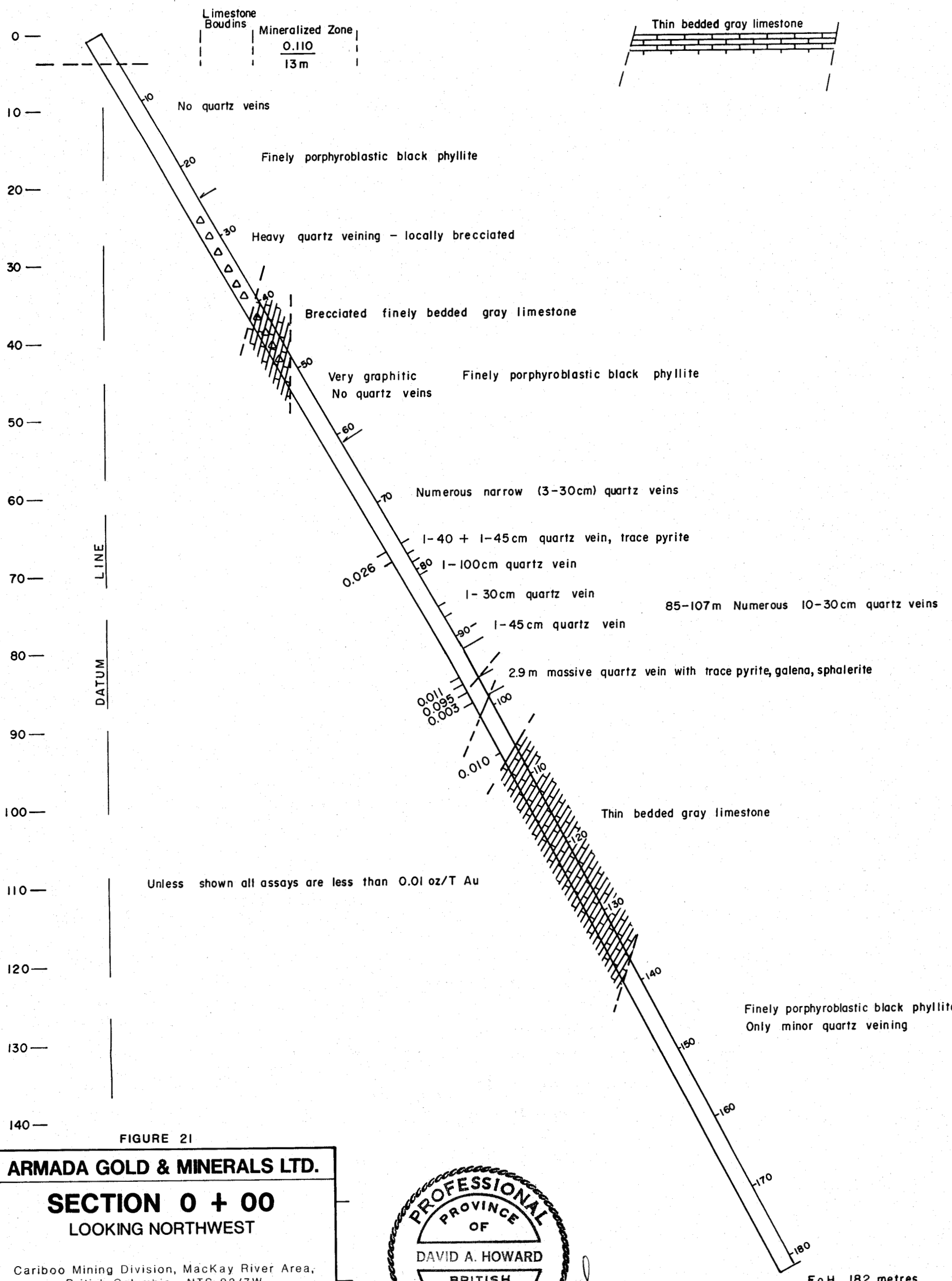
In detail the unit is quite variable in both section and along strike. The variability manifests itself in the size (less than 0.5 mm to 10 mm) and density (less than 1 to 20 percent) of the porphyroblasts, the presence of bedding, degree of sheen, pyrite content and the presence or absence of limestone beds.

The best exposure of Unit 4 on the Forks 4 claim occurs along No. 1 Creek (Figure 14) and in trench 9 (Figure 17). Although the exposure of the unit is nearly complete, there are missing sections. Unit 4 at these locations is moderately pyritic, coarsely knotted (porphyroblast, 4-10 mm), contains no limestone beds at its base and is similar in appearance to the knotted phyllite found associated with the mineralized zone on the adjoining Southlands / Sirius / Eureka property.

Unit 4 is exposed in its entirety in Trench 8 (Figures 12) along the Bouldery Creek road. At this location the knotted phyllite mainly contains finer grained porphyroblasts except for a narrow zone immediately below and partially within the base of newly discovered mineralized zone where the porphyroblasts are mostly in the 4 to 6 millimetre size range. In general the density and size of the porphyroblasts decrease going up section until they are totally absent. The upper contact is defined by the absence of porphyroblasts, although the overall character of the rock remains essentially the same on both sides of the defined contact.

In Trench 8 the lower part of Unit 4 is totally different from the basal section exposed on the Forks 4 mineral claim. The lower part of Unit 4 (Bouldery Creek road section) contains a relatively thick (29 metres) medium grey, fine grained, locally well bedded limestone bed plus several narrow (1-3 metres) beds above a narrow section of knotted phyllite. The lower contact with Unit 3 is marked by a fault (Figure 12). It was originally thought that the overlying limestone defined the base of the unit, but diamond drilling (Figures 21, 22, 23 and 24) has shown that this

DDH-88-1



Unless shown all assays are less than 0.01 oz/T Au

FIGURE 21

ARMADA GOLD & MINERALS LTD.

SECTION 0 + 00

LOOKING NORTHWEST

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93/7W

METRES
0 10 20

SCALE: 1:500	DATE: January, 1989
REVISION:	GEOLOGY BY: D.A.H.

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DDH-88-2

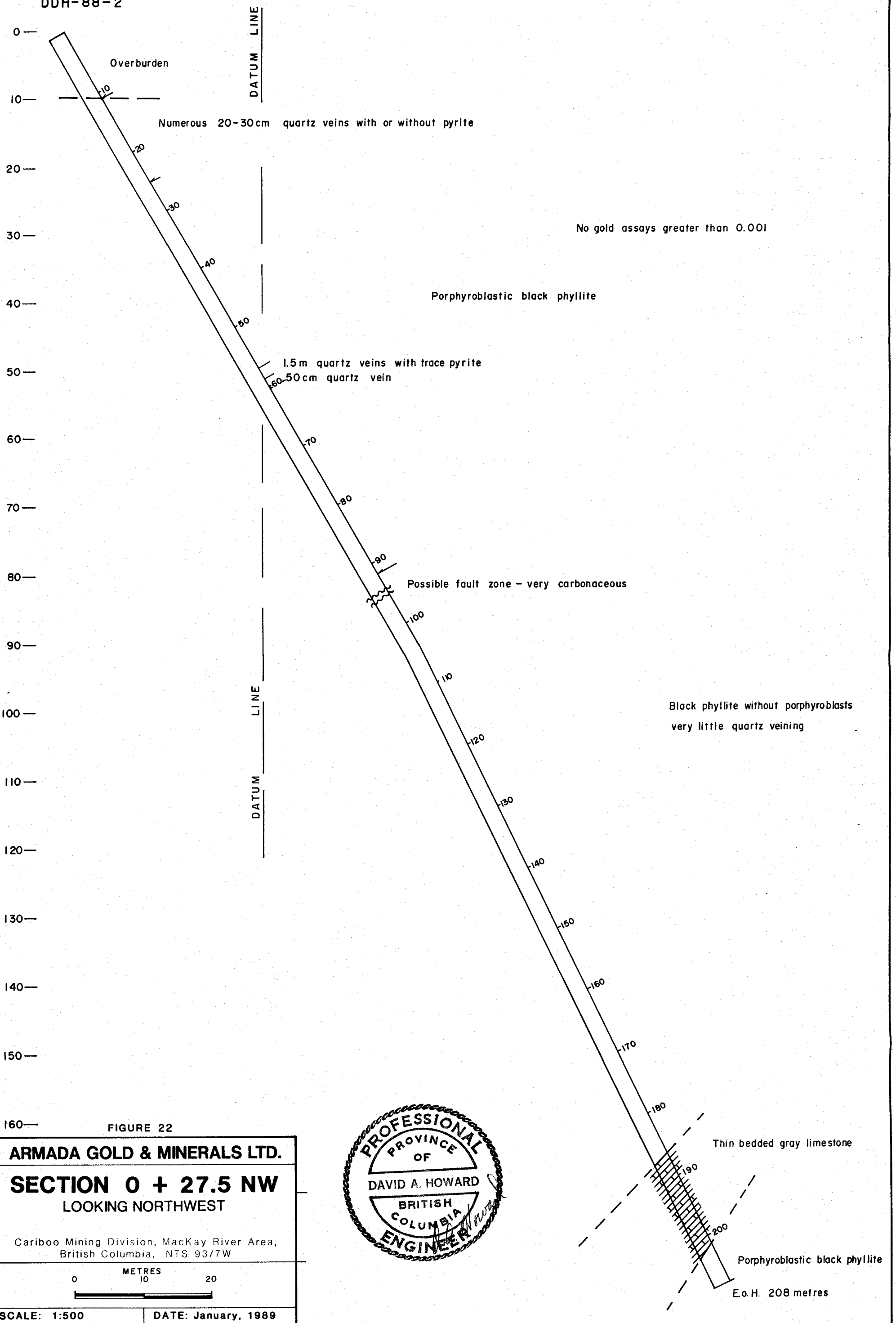

FIGURE 22

ARMADA GOLD & MINERALS LTD.	
SECTION 0 + 27.5 NW LOOKING NORTHWEST Cariboo Mining Division, MacKay River Area, British Columbia, NTS 93/7W	
METRES 0 10 20	
SCALE: 1:500	DATE: January, 1989
REVISION:	GEOLOGY BY: D.A.H.
D.D.H. GEOMANAGEMENT LTD.	

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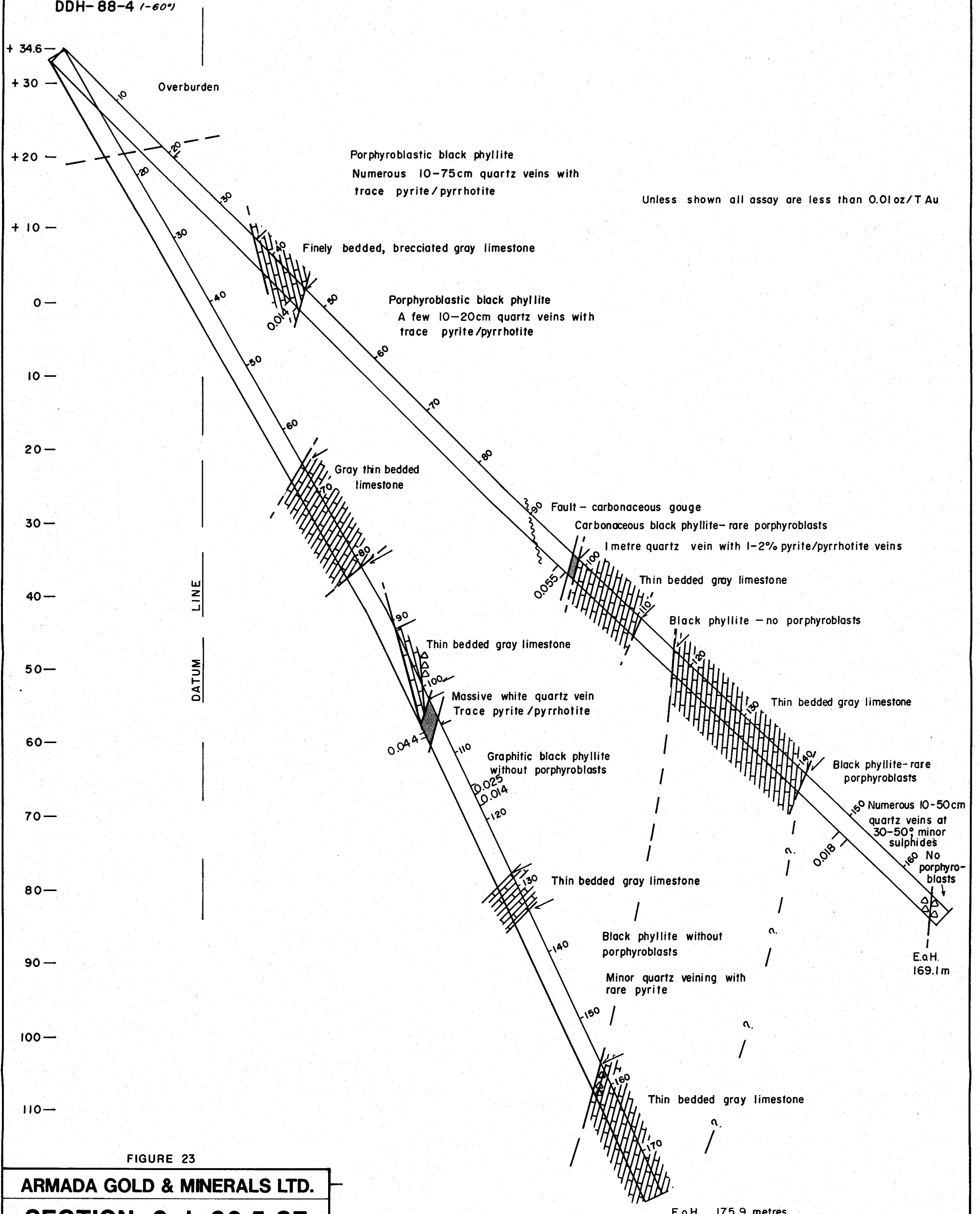
DDH-88-3 (-45°)
DDH-88-4 (-60°)



Unless shown all assay are less than 0.01 oz/T Au

FIGURE 23

ARMADA GOLD & MINERALS LTD.

SECTION 0 + 62.5 SE

LOOKING NORTHWEST

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93/7W

METRES
0 10 20

SCALE: 1:500	DATE: January, 1989
REVISION:	GEOLOGY BY: D.A.H.

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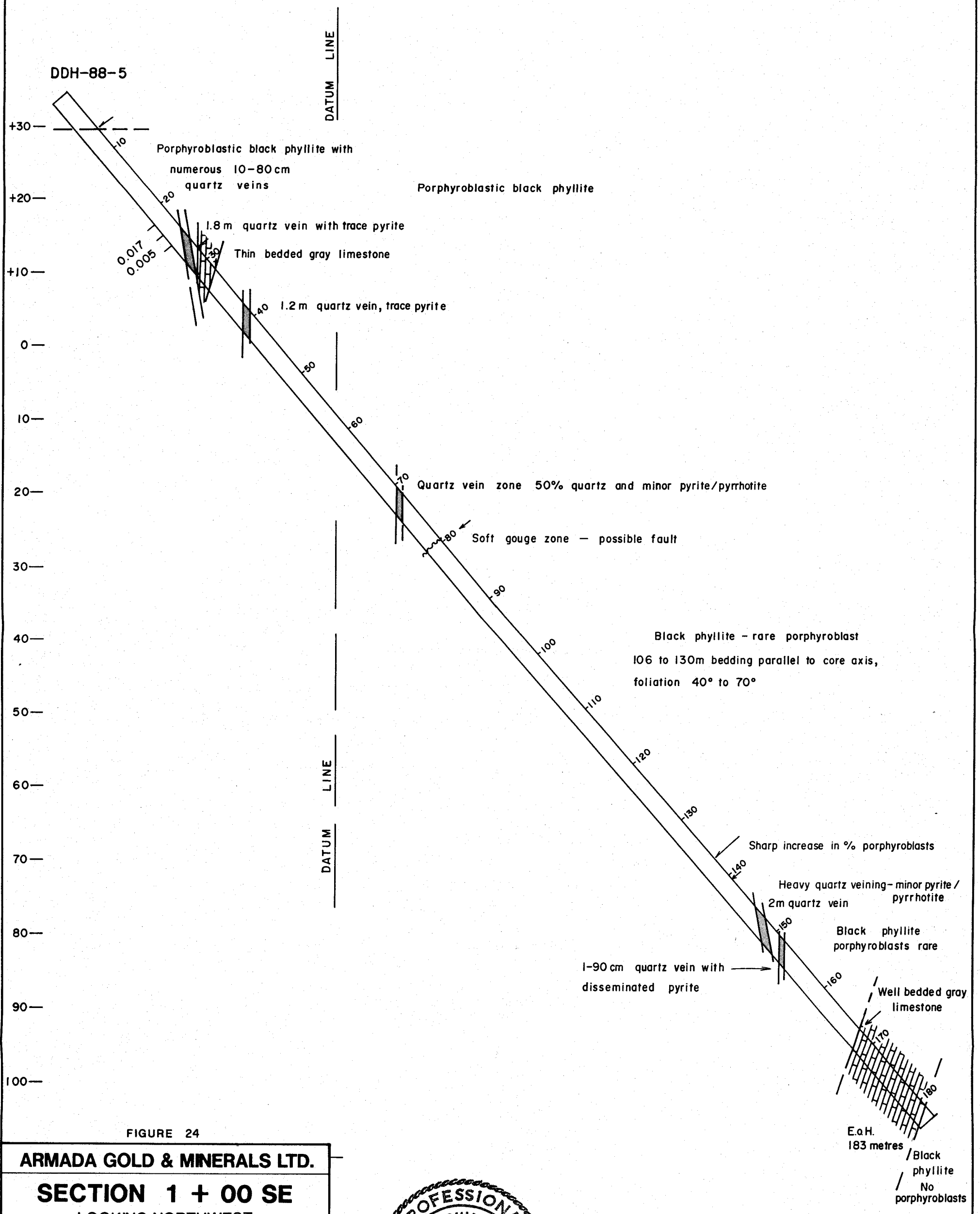

FIGURE 24

ARMADA GOLD & MINERALS LTD.

SECTION 1 + 00 SE

LOOKING NORTHWEST

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93/7W

METRES
0 10 20

SCALE: 1:500	DATE: January, 1989
REVISION:	GEOLOGY BY: D.A.H.

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is not the case, therefore the base of Unit 4 is not exposed in Trench 8. Boudinaged silicified grey limestone beds are also found within and/or immediately above the mineralized zone (Figure 19).

The gold bearing mineralized zone is distinguished by the presence of numerous boudinaged quartz veins that range in width from 1 cm to 1 metre, a high percentage of graphitic intensely sheared platy phyllite and a variable pyrite content. The platy graphitic phyllite almost appears to have a flow texture around some of the more massive knotted phyllite sections and around some of the boudinaged quartz veins. Up section from the mineralized zone, the phyllite contains much less quartz veining (with 2 exceptions), the porphyroblasts are smaller and bedding is more apparent.

Bloodgood (1987) and the writer up until the diamond drill results, has defined Unit 4 of the Black Phyllite package by the presence of porphyroblasts. During the logging of the diamond drill holes (see Appendix B) it became apparent that the porphyroblasts vary in size, density and even occurrence both along strike and down dip which may preclude their use for unit identification in areas of restricted outcrop.

The variability in porphyroblasts and the fact that sillimanite / andalusite porphyroblasts are a metamorphic phenomenon suggest, to the writer that Unit 4 as defined is not a member in a stratigraphic sense, but rather a metamorphic horizon that does not necessarily have to be parallel to pre-existing bedding. In other words it may be a crosscutting feature related to a major thrust zone. A major thrust fault could explain the increase in temperature required for the formation of the sillimanite / andalusite porphyroblasts. It could also explain the high percentage of quartz present in the mineralized zone, i.e. it provided a conduit for the quartz bearing solutions with or without gold.

Unit 5 (TR_{a5})

Unit 5 appears to be a very thick unit consisting of medium to dark grey to blue black, very fine grained, siliceous, well foliated locally very graphitic and/or

pyritic, locally very well laminated (alternating light coloured, narrow (1-2mm) silty beds and dark phyllite), moderately high sheen phyllite. The unit contains a number of sections containing interbedded grey micaceous siltstone. Smeared pyrite is locally common on foliation surfaces. Unit 5 commonly breaks out at the outcrop in elongate rod shaped fragments (pencil rock). This is caused by the intense, very tight folding of the foliation in a single direction.

Unit 6 (TR_{a6})

Unit 6 is very poorly exposed on the Horsefly Lake section therefore the following definition is questionable. Where exposed, Unit 6 consists of medium grey to black, very fine grained, siliceous, blocky, poorly foliated rusty weathering phyllite. The Horsefly Lake section contains mainly grey to pale grey, very fine grained siliceous tuffs which may be part of the overlying unit. No attempt was made to map the Unit 6 exposed on the Forks claims because it did not appear to host any mineralization. The contacts and attitudes of Unit 6 shown on the Forks claims section of Figure 10 are from mapping by Mary Ann Bloodgood, (1987).

Unit 7 (Bloodgood, 1987a) or Unit TRb (Bloodgood, 1987b) was only mapped on the Horsefly Lake section. At the location (south of TEP 2) the unit consists of mainly grey to pale green, very fine grained siliceous tuffs interbedded with minor dull, dark grey, very fine grained siliceous, blocky meta-siltstones and/or slates. At this same location there is a number of variable width dykes or small stock-like intrusions of dark grey to greenish grey, fine grained, inequigranular, hornblende/augite locally porphyritic diorite. The diorite commonly contains medium grained disseminated, slightly magnetic pyrrhotite.

The possibility of more intrusive activity in the area is suggested from a strong magnetic deflection of the compass in the vicinity of the Legal Corner Post at TEP 1 and 2, although no igneous rock was observed in the immediate area.

Structurally, the Forks, AR and TEP claims cover a segment of the northeast limb of the Eureka Peak syncline. Bedding attitudes are quite variable along strike and dips range from 30 degrees to vertical. Most of the strike directions clustered around 130 degrees (± 10 degrees). Most of the Horsefly Lake section with the exception of the area in the vicinity of the mineralized zone, dips steeply (70-85 degrees) northeast which suggests some degree of overturning on this segment of the Eureka Peak syncline. All of the black phyllite package appears to exhibit intense isoclinal folding which creates a difficult mapping situation for tracing individual units along strike. Fortunately, for this study the critical unit (Unit 4 - knotted phyllite) is also a very good marker horizon.

(3) Mineralization and Diamond Drill Results

The 1988 exploration program on the Forks, AR and TEP claim groups was in part directed toward following up the discovery of gold on the TEP-1 mineral claim that was made during the initial 1987 exploration program. The discovery sample grading 0.065 ounces gold per ton was collected from a single 25 centimetre quartz vein on the edge of an area covered by thick overburden along a new forestry road. Subsequent trenching in 1988 uncovered a 50 metre wide zone containing boudinaged quartz veins, heavy graphite and minor disseminated and/or narrow vein type pyrite and/or pyrrhotite within which there is a 13 metre wide zone grading 0.110 ounces gold per ton (see Figures 10, 12, 19 and 20).

The following Table 1 is a listing of the assays and widths, used to arrive at the above average grade. The average grade was determined by length weighing all of the assays within the mineralized zone as shown on Figure 19.

TABLE 1

Assay Results From Surface Sampling of Trench - 8
(Location Shown on Figure 19)

From	To	Length	Sample No.	Au Assay (opt)	Remarks
26	27	2 m	27599	0.001	
26A	27A	3 m	27600	0.009	
26A	27A	80 cm	27601	0.388	quartz vein
27	28	3 m	27602	0.002	
27A	28A	3 m	27603	0.011	

From	To	Length	Sample No.	Au Assay	Remarks
27A	28A	50 cm	27604	0.051	quartz vein
28	29	3 m	27605	0.001	
28A	29A	3 m	27606	0.016	
28A	29A	90 cm	27607	0.362	quartz vein
29	30	2 m	27608	0.061	
29A	30A	2 m	27609	0.985	graphitic phyllite
29A	30A	3 m	27611	0.017	
30	31	1.5 m	27612	0.096	quartz veins

Trench 8 contains a 50 metre quartz vein zone bounded by a 20 metre (±) band of slightly brecciated grey limestone at its base and a 6 metre (±) zone of boudinaged, intensely brecciated grey limestone bed(s) at its top (Figures 12, 19 and 20). At surface the mineralized zone (0.110 opt gold/13 m) is located on the hanging wall portion of the quartz vein zone immediately below the top boudinaged limestone beds. The mineralized zone at surface consists of highly contorted, folded and boudinaged quartz veins that range in width from a few centimetres to over one metre. The boudinaged veins commonly are enclosed in highly sheared, slickensided, graphitic phyllite without obvious porphyroblasts. The quartz veins are generally brecciated to varying degrees, contain variable amounts of iron carbonates (siderite and/or ankerite) and sometimes disseminated and/or vein pyrite and/or pyrrhotite. There is no correlation between the presence or absence of gold and the amount of or type of sulphides present. This lack of correlation also holds true for the non quartz vein samples as well. A 30 element I.C.P. analysis of all the 1988 surface sampling (see Appendix A) indicates that there is no correlation between the gold mineralization and any of the elements tested.

In November and December, 1988 a diamond drill program consisting of 5 holes totalling 918 metres (3,012 feet) tested a short portion of the mineralized zone (Figure 12). In general all of the drill holes except D.D.H.-88-2 crossed the entire quartz vein zone between the two main limestone beds. Drill hole D.D.H.-88-2 (Figure 22) appears to have only reached the critical zone at the end of the hole. The reason for the hole missing the zone can be seen on Figure 12 and Figure 22. The north-south trending "A" fault appears to have offset the western block to the

north approximately 70 metres as measured from the hanging wall contact of the boudinaged limestone bed. This movement was first noted in Section 0+27.5 Northwest (Figure 22) by the position of the first (and only) limestone intersection. The apparent dip of the limestone beds was determined from Section 0+00 (Figure 21) where both limestone crop out at surface on section and are also intersected in the sub-surface. The same apparent dip (80°) is also shown on Section 0+62.5 southeast where two holes (D.D.H.-88-3 and 4) are in the same vertical plane.

Diamond drill holes D.D.H.-88-1, 3, 4 and 5 all contained low grade (0.017-0.095 ounce gold per ton) intercepts as shown in Table 2 below (diamond drill logs located in Appendix B).

TABLE 2

Gold Intercepts in the Diamond Drill Holes

Hole No.	From To	Length(m)	Sample No.	Au Assay	Remarks
88-1	76.2 - 77.7	1.5	38053	0.026	85 cm qu vein
88-1	94.8 - 95.9	1.1	38065	0.011	Minor quartz
88-1	95.9 - 97.2	1.5	38066	0.095	Quartz vein
88-1	105.8 - 107.3	1.5	38073	0.010	Minor qu veins
88-3	46.0 - 47.5	1.5	38273	0.014	
88-3	97.5 - 99.0	1.5	38307	0.055	1 m qu vein
88-3	150.9 - 152.4	1.5	38340	0.018	50 cm qu vein
88-4	104.9 - 105.8	0.9	38413	0.044	quartz vein
88-4	114.9 - 116.4	1.5	38421	0.025	
88-4	116.4 - 118.9	1.5	38422	0.014	
88-5	22.3 - 23.8	1.5	38473	0.017	70 cm qu vein

Assay results from the drilling indicate that the distribution of both grade and position of the gold mineralization is very erratic (see Figures 21, 23 and 24). This erratic distribution can also be illustrated on surface (Figure 19) when a comparison is made between the various sample lines and/or sample types (quartz veins verses combination), particularly when the relatively small area covered by the sampling within the mineralized zone is considered. The reason for the lack of correlation between over all surface grades and widths and the drill hole values is not obvious because the basic geology intersected in the drill holes in identical to that observed at surface. The lack of alignment between the mineralized intercepts can be explained by the intense folding and contorted quartz veins. Isoclinal folding is very common throughout the entire Black Phyllite unit and is particularly intense in Unit 4. At this point it is only suggested that the gold mineralization is restricted to the boudinaged quartz veins. In the writer's opinion this suggestion is at least partially correct.

The lack of grade correlation is compounded by a very serious nugget effect. Nugget effect is a characteristic typified in placer gold deposits, but applicable to other type deposits, where the influence of all variables (particles of gold) have ranges much smaller than the available distances of observation (Journal and Huijbregts, 1978). The definition of nugget effect is closely related to the scale of observation which in the present case appears to be less than the size of a single sample. A comparison between two separate splits (see Table 3) of a set of samples from the surface mineralized zone (Figure 19) show the extreme variability (nugget effect) present in the deposit. The same extreme variability also occurs in the adjoining Fraser Gold Deposit.

Core stored on Logging road at junction of Hawkley Creek and McKay River (Southlands Camp).

TABLE 3

Comparison of Separate Assays from the Same Sample - Different Splits - Trench 8 Mineralization Zone

Check Assays		Original Assays	
Sample No.	Au Assay	Sample No.	Au Assay
27599	0.001	38573	0.002
27600	0.009	38574	0.002
27601	0.388	38575	0.078
27602	0.002	38576	0.001
27603	0.011	38577	0.012
27604	0.051	38578	0.042
27605	0.001	38579	0.005
27606	0.016	38580	0.009
27607	0.362	38581	0.099
27608	0.061	38582	0.016
27609	0.985*	38582	0.265*
27610	0.187*	38584	0.965*
27611	0.017	38585	0.083
27612	0.096	38586	0.048
27613	0.001	38597	0.002

*Samples were **not** reversed

CONCLUSIONS AND RECOMMENDATIONS

Continued geologic mapping and extensive trenching has traced the potentially gold bearing black porphyroblastic phyllitic unit (Unit 4) across the length of the property. Trenching and diamond drilling has defined a wide (13 metres ±) gold bearing zone in the vicinity of the 1987 discovery area. The weighted average grade at surface is 0.110 ounces gold per ton over a width of 13 metres. The gold bearing zone was confirmed in the sub-surface by diamond drilling but for various reasons (some unknown) the grades and widths (highest grade - 0.095/1.5 metre) were considerably less than those at surface. Detailed assaying of the surface samples indicated that the deposit is subject to an extreme nugget effect. The usual solution to an extreme nugget effect is to increase both the sample size and the sample density which in the present case may not be too practical. An alternate solution is to continue testing other parts of the deposit in hope of finding a section with less of a nugget effect, particularly when the favourable horizon (Unit 4) has a potential strike length of 8 kilometres.

It is therefore recommended that Armada Gold and Minerals Ltd. continue with the diamond drilling program along strike in both directions from the discovery zone. It is also recommended that a couple of wild-cat holes be drilled in the vicinity of No. 1 Creek - Trench 9 on Forks 4 claim to test for the presence of gold in Unit 4 which crops out at this location.

PERSONNEL TIME DISTRIBUTION

(Forks 1-4, AR 1-2, TEP 1-3 Mineral Claims

D.A. Howard, M.Sc., P.Eng. (Geological Engineer)

Field	July 19 - August 17, 1988 inclusive	30 days
	August 20 - September 16, 1988 inclusive	28 days
	November 15 - December 12, 1988 inclusive	28 days
Office	Report preparation	88 hours
Period	September 17 - November 14, 1988 and December 13, 1988 - January 31, 1989 Time - 88 hours	

C.E. Gunn, Professional Prospector

Field	July 18 - August 7, 1988 inclusive	21 days
	August 11 - September 15, 1988 inclusive	36 days
	November 15 - November 23, 1988 inclusive	9 days
	November 26 - December 2, 1988 inclusivse	7 days
	December 6 - December 12, 988 inclusive	7 days

Mike S. Drummond, Core Splitter

Field	November 15 - December 12, 1988	28 days

Ken Martel, Backhoe Operator
Time included in hourly rate for backhoe and loader

Ernie Gruhs, Bulldozer, Operator
Time included in hourly rate for bulldozer

David Barett, Logger
Time included in contacted cost of timber clearing and reclamation

Diamond Drill Crew (4 men)
Time included in footage rate for diamond drilling

COST STATEMENT

Personnel

D.A. Howard, M.Sc., P.Eng.	
Field 86 days at $400.00 per day	$34,400.00
Office 88 hours at $50.00 per day	4,400.00
C.E. Gunn, Professional Prospector	
Field 80 days at $275.00 per day	22,000.00
M.S. Drummond, Core Splitter	
Field 28 days @ $150.00 per day	4,200.00
Dave Barrett	
Logging and reclamation	600.00
Sub-total	65,600.00

Expenses and Disbursements
Trenching and Geologic Mapping Portion of Program

Lake excavating	
Cat 225 Backhoe, 191 hrs @ $120.00/hr	22,920.00
Cat 966 Loader, 81.5 hrs @ $80.00/hr	6,520.00
Hauling charges	847.50
Dynamin Engineering Limited	
John Deere 644B Loader, 112 hrs @ $70.00/hr	7,840.00
Gruhs Bulldozing Ltd.	
Cat D-8H, 92.5 hrs @ $107.75/hr	9,966.88
Rauch Holdings Ltd.	
Trucking equipment	1,185.00
Camp operations	
J. Barrett (Catering)	7,476.00
4x4 truck rental	
Budget Rent a Car	2,151.80
C.E. Gunn	2,000.00
Fire pump use	
2 months @ $500.00/month	1,000.00

Miscellaneous camp supplies, vehicle fuel and travel expenses	$ 3,485.93
Assaying Acme Analytical Laboratories 190 samples @ $18.75/sample	3,562.50
Sub-total	68,955.61

Diamond Drilling Portion of Program

Diamond drilling Tonto Consulting Ltd., 3,012 feet (918 metres)	100,262.57
Camp operation 1257 Geological Ltd.	26,000.24
Assaying Acme Analytical Laboratories Ltd.	9,353.50
4x4 truck rental (2)	2,205.75
Travel expenses / Miscellaneous camp supplies	2,132.27
Field equipment	1,248.08
Mineral identification S.J. Horsky, U.B.C.	100.00
Sub-total	141,302.41

Report Preparation

Geodrafting Services Ltd.	1,792.66
Image Reproduction Services Ltd.	150.78
On-Words (typing)	177.75
Xeroxing	89.10
Sub-total	2,210.29
TOTAL	$ 278,068.31

Respectfully submitted,

D. A. Howard

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
DAVID A. HOWARD

D.A. Howard, M.Sc., P.Eng.
D.D.H. Geomanagement Ltd.

D.D.H. GEOMANAGEMENT LTD.

CERTIFICATION

I, David A. Howard, of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am a geologist residing at 9040 Glenallan Gate, Richmond, B.C., with an office at 422 - 470 Granville Street, Vancouver, B.C.

2. I am a registered Professional Engineer of the Province of British Columbia. I graduated from Montana State University in 1964 and from the University of Washington in 1967.

3. I have practised my profession continuously since June, 1966, with the firm Placer Development Ltd. and since 1981 with D.D.H. Geomanagement Ltd., the latter of which I am a principal.

4. I am the author of this report which is based on property work during the period 19 July to December 12, 1987.

5. I have a direct interest in the subject property.

Dated at Vancouver, B.C., this 31st day of January, 1989.

David A. Howard

David A. Howard, M.Sc., P.Eng.

REFERENCES

Belik, G.D., 1982: Summary Report on the Frasergold Property, Cariboo Mining Division, British Columbia for Eureka Resources, Inc., Qualifying Report in Eureka Resources, Inc. Prospectus, June 1, 1983.

Belik, G.D., 1983: Geological, Geochemical and Diamond Drill Report on the Bee Group, Cariboo Mining Division, British Columbia, for Ripple Resources Ltd., Assessment Report. No. 11724.

Bloodgood, M.A., 1987a: "Geology of the Triassic Black Phyllite in the Eureka Peak Area, Central British Columbia" in Geological Fieldwork, 1986, B.C. Min. of Energy, Mines and Pet. Res., Paper 1987-1.

_____, 1987b: "Geology of the Eureka Peak - MacKay River Area, Central British Columbia, NT.S. 93A/7; Min. of Energy, Mines & Pet. Res. Open File Map 1987-89.

British Columbia: Annual Report of the Minister of Mines for the years 1901, 1902, 1903, 1910, 1934.

Campbell, R.B., 1978: Quesnel Lake Map Area, 93A, B.C., Geol. Surv. Can., O.F. 574.

Dawson, J.M., 1984: Geochemical Report on the LL #1 Claim, Cariboo Mining Division, British Columbia for Valhalla Minerals Inc., Assmt. Rept. No. 12590.

Howard, D.A. (1988): Geological and Geochemical Report on the Forks 1-4, AR 1-2, TEP 1-3 claims - Cariboo Mining Division, Mackay River Area, British Columbia, Assessment Report Written for Armada Gold and Minerals Ltd.

Journel, A.G. and Huijbregts, CH.J. (1978): Mining Geostatistics, Academic Press, London - New York - San Francisco.

Saleken, L.W. and Simpson, R. G., 1984: "Cariboo-Quesnel Gold Belt: A Geological Overview" in Western Miner, Vol. 57, No. 4, pp. 15-20.

Sketchley, D.A., 1982: Soil Geochemical Report, Hawk 1 Claim, Cariboo Mining Division, for Dennison Mines Limited, Assmt. Rept. No. 10107.

Struik, L.C., 1981: A re-examination of the type area of the Devono-Mississippian Cariboo Orogeny, central British Columbia; Canadian Journal of Earth Sciences, v. 18, p. 1767-1775.

_____, 1982a: Snowshoe Formation (1982), central British Columbia; in Current Research, Part B, Geological Survey of Canada, Paper 82-1B, p. 117-124.

_____, 1982b: Bedrock geology of Cariboo Lake (93A/14), Spectacle Lake (93H/3), Swift River (93A/13) and Wells (93H/4) map areas, central British Columbia; Geological Survey of Canada, Open File 858.

_____1983a: Bedrock geology of Spanish Lake (93A/11) and parts of adjoining map areas, central British Columbia; Geological Survey of Canada, Open File 920.

_____, 1983b: Bedrock geology of Quesnel Lake (93A/10) and part of Mitchell Lake (93A/15) map areas, central British Columbia; Geological Survey of Canada, Open File 962.

_____, 1985a: Pre-Cretaceous terranes and their thrust and strike-slip contacts, Prince George east half and McBride west half, British Columbia; in Current Research, Part A, Geological Survey of Canada, Paper 85-1A, p. 267-272.

_____, 1985b: Dextral strike-slip through Wells Gray Provincial Park, British Columbia; in Current Research, Part A, Geological Survey of Canada, Paper 85-1A, p. 305-309.

_____, 1985c: Thrust and strike-slip faults bounding tectonostratigraphic terranes, central British Columbia; in Field Guides to Geology and Mineral Deposits in the Southern Canadian Cordillera, ed. D.J. Tempelman-Kluit; Geological Society of America, Cordilleran Section, p. 14.1-14.8.

_____, 1986: A regional east-dipping thrust places Hadrynian onto probable Paleozoic rocks in Cariboo Mountains, British Columbia; in Current Research, Part A, Geol. Surv. Canada Paper 86-1A, 589-594.

_____, 1986: Imbricated terranes of the Cariboo gold belt with correlation and implications for tectonics in southeastern British Columbia; Can. Jour. of Earth Sciences, v. 23, p. 1047-1061.

Wheeler, J.O. et.al., 1972: "The Cordilleran Structural Province", in Variations in Tectonic Styles in Canada, Geol. Assoc. of Can., Spec. Paper No. 11.

Other

G. Cross Newsletter: No. 240, December 15, 1987.

1982 - 1983 Canadian Mines Handbook, p. 116.

1984 - Annual Report, Eureka Resources, Inc.

1986 - Eureka Resources, Inc. Annual Report.

1984 - North American Gold Mining Industry News, Vol. 2, Issue 1, January 15, 1984, p. 1.

1986 - Stockwatch - a publication of Canjex Publishing Ltd., Vancouver, B.C., dated March 30, 1987.

APPENDIX A

ASSAY RESULTS
ACME ANALYTICAL LABORATORIES LTD.

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL/ASSAY CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU** BY FIRE ASSAY FROM 1 A.T.

DATE RECEIVED: SEP 16 1988 DATE REPORT MAILED: Sept 26/88 ASSAYER. C. Leong ..D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

D.D.H. GEOMANAGEMENT LTD. PROJECT ARMADA File # 88-4548 Page 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au** OZ/T
R 27546	7	41	11	106	.7	48	11	345	3.57	8	5	ND	3	28	1	2	2	9	.38	.035	7	30	.48	51	.01	2	.69	.03	.08	2	.001
R 27547	8	41	5	131	.8	44	16	323	3.65	2	5	ND	1	43	1	2	2	7	1.68	.038	4	13	.83	43	.01	2	.46	.02	.10	1	.001
R 27548	4	30	15	107	.7	34	9	412	2.96	2	5	ND	1	82	1	2	2	5	2.19	.034	7	22	.65	35	.01	2	.21	.03	.07	1	.001
R 27549	31	88	10	342	1.0	102	9	505	2.94	2	5	ND	1	47	6	2	2	18	1.54	.054	2	22	.84	89	.01	2	.54	.01	.10	1	.001
R 27550	26	89	7	366	.9	93	9	498	2.74	2	5	ND	2	48	7	2	2	28	1.42	.087	3	44	.86	98	.01	2	.68	.02	.11	1	.001
R 27551	5	67	10	167	.4	69	6	1117	2.07	2	5	ND	1	22	1	2	2	6	.49	.029	4	16	.48	139	.01	2	.51	.01	.07	2	.001
R 27552	21	72	15	159	.5	85	10	351	3.03	2	5	ND	2	21	1	2	2	10	.40	.039	6	31	.42	101	.01	5	.55	.02	.11	1	.001
R 27553	45	64	27	247	.9	143	9	1900	4.36	2	5	ND	2	41	2	2	2	13	2.36	.054	4	16	.41	112	.01	2	.46	.01	.10	1	.001
R 27554	81	89	42	165	2.9	186	13	236	5.43	2	5	ND	3	20	1	2	2	14	.78	.062	4	20	.15	69	.01	2	.36	.02	.11	2	.001
R 27555	6	48	16	91	.1	35	3	426	1.79	2	5	ND	1	11	1	2	2	6	.13	.023	8	19	.31	86	.01	2	.43	.01	.07	2	.001
R 27556	3	72	5	152	.5	70	7	892	2.33	2	5	ND	2	24	1	2	2	11	.43	.034	6	47	.83	102	.01	2	.90	.01	.09	1	.001
R 27557	5	75	18	135	.7	59	8	728	2.25	2	5	ND	1	82	1	2	2	7	1.48	.038	3	21	.98	95	.01	2	.58	.01	.10	1	.001
R 27558	4	55	9	94	.1	50	5	179	1.65	2	5	ND	1	19	1	2	2	8	.31	.027	4	46	.33	79	.01	2	.44	.01	.07	1	.001
R 27559	29	82	11	362	.6	80	7	468	3.90	2	5	ND	1	98	7	2	2	27	3.21	.048	3	26	1.14	81	.01	2	.49	.01	.11	1	.001
R 27560	7	52	13	149	.5	50	14	282	3.68	2	5	ND	3	57	1	2	2	7	1.79	.042	5	22	.65	56	.01	2	.30	.02	.11	1	.001
R 27561	16	58	6	217	.5	55	9	397	3.60	4	5	ND	2	49	2	2	2	11	1.47	.064	6	13	.58	83	.01	2	.41	.02	.11	1	.001
R 27562	8	48	16	114	.6	47	4	566	1.54	5	5	ND	3	8	1	2	2	9	.10	.024	6	44	.18	77	.01	4	.32	.01	.06	2	.001
R 27563	5	75	24	136	.5	65	6	1706	2.48	2	5	ND	1	75	1	2	2	6	1.56	.065	4	19	.56	129	.01	2	.36	.01	.08	1	.001
R 27564	2	53	7	125	.3	48	5	1508	2.43	2	5	ND	2	21	1	2	2	8	.70	.032	7	42	.76	178	.01	2	.96	.01	.09	1	.001
R 27565	5	59	15	143	.2	75	7	1339	2.32	2	5	ND	1	22	1	2	2	10	.71	.029	8	30	.67	156	.01	2	.86	.01	.08	1	.001
R 27566	5	65	12	130	.3	55	5	590	2.08	2	5	ND	1	12	1	2	2	7	.21	.033	7	45	.34	127	.01	2	.55	.01	.07	1	.001
R 27567	105	49	24	284	1.0	122	15	109	5.82	28	5	ND	6	25	2	2	2	39	.48	.056	8	12	.23	45	.01	2	.46	.02	.12	1	.001
R 27568	30	53	15	241	.9	71	12	532	4.26	3	5	ND	4	204	5	2	2	20	5.67	.042	2	22	1.77	64	.01	2	.43	.02	.12	1	.001
R 27569	3	38	14	100	.1	38	15	681	5.26	2	5	ND	16	19	1	2	2	22	.15	.047	36	34	.89	69	.01	2	2.31	.03	.10	1	.001
R 27570	8	49	38	20	.5	23	21	1461	2.51	2	5	ND	2	6	1	2	2	3	.03	.006	11	8	.05	82	.01	2	.20	.01	.05	1	.001
R 27571	5	34	20	107	.1	46	15	662	5.32	2	5	ND	17	20	1	3	3	21	.17	.057	46	33	.90	60	.01	2	2.23	.03	.13	1	.001
R 27572	1	28	10	107	.1	45	16	508	5.82	2	5	ND	16	26	1	2	2	24	.26	.092	46	37	1.11	58	.01	2	2.75	.03	.13	1	.001
R 27573	5	10	10	20	.1	37	3	228	.89	6	5	ND	1	2129	1	3	2	4	31.69	.034	7	5	.23	56	.01	2	.13	.01	.04	4	.001
R 27574	11	5	9	18	.1	21	2	163	.79	5	5	ND	1	1930	1	2	2	4	27.28	.034	9	5	.15	77	.01	2	.11	.01	.05	4	.001
R 27575	8	46	3	1958	2.0	34	11	153	3.04	2	5	ND	1	400	18	2	2	3	4.14	.013	8	7	.06	37	.01	2	.10	.01	.04	5	.001
R 27576	1	1	6	13	.1	3	1	28	.14	2	20	ND	1	2896	1	2	3	1	41.50	.021	2	2	.19	48	.01	4	.01	.01	.01	6	.001
R 27577	3	15	8	32	.2	13	4	101	1.04	19	5	ND	1	2480	1	2	2	2	24.37	.035	11	4	.22	89	.01	2	.12	.01	.06	2	.001
R 27578	14	19	12	43	.5	26	5	162	1.33	24	6	ND	2	1938	1	2	2	4	24.76	.041	6	5	.23	91	.01	2	.16	.01	.08	6	.001
R 27579	15	15	15	101	.6	31	4	194	1.14	17	5	ND	1	1702	1	2	2	4	25.14	.058	3	5	.21	79	.01	2	.12	.01	.06	3	.001
R 27580	10	6	12	14	.3	17	3	158	.83	9	21	ND	1	2229	1	2	2	3	30.74	.035	5	3	.25	51	.01	4	.11	.01	.05	5	.001
R 27581	8	7	15	31	1.0	17	4	74	1.55	31	23	ND	2	993	1	2	3	3	15.72	.019	4	4	.11	56	.01	6	.15	.02	.05	4	.001
STD C	17	57	38	131	7.1	67	29	1016	3.81	38	20	6	39	47	17	17	17	59	.44	.089	39	55	.81	176	.07	34	1.80	.06	.17	11	-

D.D.H. GEOMANAGEMENT LTD. PROJECT ARMADA FILE # 88-4548

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au** OZ/T
R 27582	1	1	5	4	.1	1	1	36	.13	2	5	ND	1	2527	1	2	2	2	39.77	.031	2	2	.21	26	.01	2	.01	.01	.01	3	.002
R 27583	3	49	8	49	.6	42	12	411	3.90	2	5	ND	6	39	1	2	2	8	1.13	.047	16	10	.23	48	.01	2	.81	.04	.10	1	.002
R 27584	4	43	28	54	1.7	36	12	485	5.27	2	5	ND	3	109	1	2	2	9	1.14	.116	15	12	.33	47	.01	2	.89	.03	.09	1	.001
R 27585	1	29	23	50	.9	24	8	421	6.08	2	5	ND	2	137	1	2	2	7	2.73	.046	11	10	.25	43	.01	2	.67	.04	.09	1	.001
R 27586	1	56	61	67	2.4	42	17	384	4.82	37	5	ND	3	36	1	2	2	8	.10	.055	11	9	.36	63	.01	2	.85	.03	.10	1	.001
R 27587	1	15	24	19	.1	12	7	400	1.68	11	5	ND	1	15	1	2	2	2	.13	.012	4	5	.03	34	.01	2	.14	.01	.04	6	.001
R 27588	1	10	49	11	1.8	9	2	137	.88	7	5	ND	1	924	1	2	2	2	18.47	.036	2	4	.15	32	.01	2	.12	.01	.05	3	.001
R 27589	1	37	7	35	1.0	31	14	303	2.93	2	5	ND	3	42	1	2	2	5	.56	.035	14	5	.11	41	.01	2	.49	.03	.09	1	.001
R 27590	2	43	8	31	.3	46	12	515	3.81	2	5	ND	7	34	1	2	2	5	.15	.032	17	7	.08	49	.01	2	.47	.04	.07	1	.001
R 27591	3	17	22	37	.7	27	8	1058	4.63	2	5	ND	1	614	1	2	2	5	13.18	.058	9	6	.16	55	.01	5	.25	.03	.08	4	.001
R 27592	2	4	5	12	.1	10	2	377	1.44	2	5	ND	1	137	1	2	2	1	3.13	.010	2	6	.05	14	.01	2	.04	.01	.01	1	.001
R 27593	1	49	15	37	.8	33	12	718	4.27	2	5	ND	6	27	1	2	2	7	.11	.034	16	12	.25	43	.01	2	.75	.03	.08	4	.002
R 27594	3	44	19	72	.4	45	14	620	5.53	2	5	ND	6	25	1	2	2	13	.14	.048	15	24	.60	46	.01	2	1.49	.03	.10	1	.001
R 27595	1	16	14	79	.1	32	11	534	4.44	2	5	ND	5	20	1	2	2	15	.14	.049	17	27	.82	43	.01	2	1.82	.03	.10	1	.001
R 27596	1	22	14	88	.1	38	12	443	4.69	2	5	ND	4	26	1	2	2	17	.40	.053	13	29	.90	39	.01	2	1.93	.03	.10	1	.001
R 27597	1	37	17	76	.4	37	13	734	5.47	3	5	ND	1	32	1	2	2	14	2.48	.042	6	24	.69	36	.01	2	1.51	.03	.09	1	.001
R 27598	3	45	59	40	2.2	19	12	1482	5.51	2	5	ND	1	45	2	3	2	2	7.05	.032	2	7	.23	29	.01	2	.15	.01	.04	1	.001
R 27599	2	27	13	80	.1	36	12	474	4.53	3	5	ND	2	34	1	2	2	16	.94	.049	10	27	.83	43	.01	2	1.82	.04	.12	1	.001
R 27600	2	52	23	55	1.4	27	11	467	3.85	2	5	ND	2	60	1	3	2	11	1.75	.042	6	20	.62	78	.01	4	1.21	.03	.09	1	.009
R 27601	2	65	361	33	14.1	28	9	999	3.97	2	5	6	1	87	2	2	11	3	4.45	.122	2	9	.45	38	.01	2	.32	.01	.04	2	.388
R 27602	1	41	29	77	.9	36	12	436	4.62	2	5	ND	3	32	1	2	2	16	1.20	.040	8	27	.84	39	.01	2	1.77	.03	.10	1	.002
R 27603	1	35	26	79	1.0	33	11	546	4.48	2	5	ND	4	82	1	2	2	14	1.96	.043	6	26	.87	30	.01	2	1.49	.03	.10	1	.011
R 27604	3	62	71	22	2.2	21	4	677	3.06	2	5	ND	1	83	1	2	2	2	2.71	.010	2	9	.39	124	.01	4	.23	.01	.03	1	.051
R 27605	1	29	16	88	.3	39	13	378	4.69	2	5	ND	6	39	1	2	2	18	.87	.053	13	29	.89	56	.01	2	1.99	.03	.13	1	.001
R 27606	1	50	50	70	1.1	34	13	616	5.40	7	5	ND	3	76	1	2	2	11	2.86	.034	5	18	.75	44	.01	2	1.23	.03	.10	1	.016
R 27607	3	40	39	50	2.4	14	10	697	4.43	2	5	ND	1	63	1	2	2	2	4.24	.002	2	8	.30	213	.01	2	.15	.01	.02	1	.362
R 27608	1	37	17	79	1.1	37	14	461	4.68	2	5	ND	5	39	1	3	2	15	1.06	.043	8	25	.82	42	.01	3	1.79	.04	.13	1	.061
R 27609	1	32	20	92	13.8	39	15	440	4.78	4	5	9	2	47	1	3	2	17	.92	.043	6	28	.96	158	.01	3	1.86	.03	.11	1	.985
R 27610	3	22	35	17	2.7	16	5	434	2.19	2	5	ND	1	64	1	2	2	2	2.12	.004	2	10	.32	723	.01	2	.22	.01	.03	1	.187
R 27611	2	47	14	26	1.5	29	12	376	3.49	2	5	ND	3	55	1	2	2	6	2.13	.025	6	9	.34	53	.01	3	.59	.03	.10	1	.017
R 27612	3	9	61	28	3.0	13	3	704	3.03	2	5	ND	1	102	1	2	2	2	4.08	.007	2	8	.35	39	.01	2	.15	.01	.03	1	.096
R 27613	2	1	107	11	.1	3	1	165	.83	2	5	ND	1	801	1	2	2	2	15.78	.046	2	5	.18	28	.01	2	.06	.01	.01	4	.001
R 27614	3	30	12	40	.4	28	7	427	2.68	3	5	ND	1	618	1	2	2	5	13.57	.042	2	10	.51	32	.01	2	.45	.01	.06	2	.008
R 27615	2	31	18	75	.7	35	12	608	4.73	8	5	ND	6	78	1	2	2	17	1.55	.047	8	28	1.12	32	.01	5	1.82	.03	.10	1	.001
R 27616	2	29	16	70	.4	38	14	532	4.37	11	5	ND	4	52	1	7	2	15	1.19	.037	9	26	1.03	32	.01	4	1.71	.03	.10	1	.001
R 27617	1	22	19	71	.2	29	13	475	3.84	11	5	ND	9	31	1	2	2	15	.85	.048	15	21	.77	40	.01	7	1.69	.04	.11	1	.001
STD C	18	60	42	132	6.7	69	30	1026	3.92	39	18	7	39	49	20	17	19	61	.46	.096	40	55	.84	182	.07	33	1.79	.06	.17	11	-

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au** OZ/T
R 27618	2	32	13	95	.3	36	14	643	5.38	10	5	ND	8	29	1	2	2	18	1.13	.055	10	30	.97	66	.01	5	2.07	.02	.09	1	.001
R 27619	1	34	20	85	.3	32	12	825	4.70	7	5	ND	6	70	1	2	2	14	2.02	.048	9	23	.84	51	.01	5	1.61	.02	.08	1	.001
R 27620	2	37	12	63	.4	36	12	760	4.11	5	5	ND	7	73	1	2	2	8	3.03	.046	6	15	1.01	31	.01	9	.80	.02	.12	1	.001
R 27621	1	43	17	82	.5	31	10	305	4.18	8	5	ND	8	26	1	2	4	16	.42	.037	9	24	.90	133	.01	4	1.75	.01	.08	1	.001
R 27622	1	39	14	99	.3	40	17	464	5.68	10	5	ND	6	28	1	2	2	17	.66	.049	5	30	1.22	21	.01	5	2.09	.02	.07	1	.001
R 27623	1	33	17	94	.6	40	16	444	5.54	21	5	ND	7	22	1	3	2	16	.36	.067	7	29	.95	28	.01	3	1.87	.02	.07	2	.001
R 27624	1	23	14	97	.3	42	12	464	5.83	12	5	ND	7	20	1	2	2	17	.38	.052	7	32	1.09	23	.01	4	1.96	.03	.07	1	.001
R 27625	1	32	14	93	.7	44	20	715	5.97	21	5	ND	7	43	1	2	2	14	1.12	.067	5	29	1.24	25	.01	4	1.67	.03	.07	1	.001
R 27626	2	40	32	128	1.5	50	16	532	6.89	16	5	ND	5	30	1	6	2	22	.82	.057	5	32	1.49	38	.01	5	2.37	.02	.07	1	.001
R 27627	1	43	13	82	1.1	35	14	543	4.85	17	5	ND	4	29	1	2	2	12	.86	.051	6	23	1.05	27	.01	3	1.41	.02	.07	1	.001
R 27628	1	22	22	44	.7	21	6	748	4.05	5	5	ND	3	65	1	2	2	4	2.94	.032	3	11	1.10	20	.01	2	.42	.02	.05	3	.001
R 27629	1	11	21	36	.5	12	5	932	4.69	2	8	ND	2	106	2	2	2	2	4.41	.028	2	6	1.33	35	.01	4	.12	.01	.03	2	.001
R 27630	65	32	15	82	.9	38	15	693	5.21	19	5	ND	6	37	1	2	2	14	1.05	.059	8	24	1.11	31	.01	5	1.34	.03	.09	1	.001
R 27631	2	33	9	60	.7	41	11	468	4.38	10	5	ND	5	46	1	2	2	8	1.64	.048	5	16	.93	24	.01	3	.86	.02	.07	1	.001
R 27632	1	39	10	65	.8	41	19	612	4.35	19	5	ND	5	49	1	2	2	7	1.92	.036	4	14	.91	23	.01	3	.70	.02	.07	1	.001
R 27633	1	32	6	36	.8	22	8	463	3.33	3	5	ND	1	50	1	2	2	2	2.04	.011	2	4	.54	19	.01	3	.17	.01	.04	1	.014
R 27634	1	44	16	88	1.2	38	15	796	4.68	43	5	ND	6	59	1	2	3	8	2.22	.064	5	17	1.08	24	.01	2	.89	.03	.08	1	.001
R 27635	1	34	23	82	1.0	35	14	879	4.63	12	5	ND	5	55	1	2	3	11	1.99	.057	5	19	1.09	23	.01	3	1.10	.02	.07	1	.001
R 27636	1	61	18	80	1.3	46	13	627	5.56	12	5	ND	4	36	1	2	4	16	1.13	.050	5	27	1.09	31	.01	2	1.70	.02	.07	1	.001
R 27637	1	25	14	92	.2	39	12	598	5.01	15	5	ND	4	26	1	2	2	19	.63	.052	8	29	1.13	40	.01	2	1.90	.02	.08	1	.001
R 27638	1	52	16	83	.6	39	16	429	4.92	17	5	ND	4	16	1	2	2	15	.28	.053	7	28	.91	65	.01	2	1.86	.02	.07	1	.001
R 27639	1	45	16	88	.5	37	14	430	5.26	13	5	ND	3	20	1	2	2	18	.51	.053	7	29	1.01	35	.01	2	2.05	.02	.09	1	.001
R 27640	2	30	14	86	.5	39	16	553	5.29	21	5	ND	4	32	1	3	2	18	1.07	.055	7	31	1.14	29	.01	4	1.98	.02	.08	1	.001
R 27641	1	22	16	91	.1	38	12	571	5.15	12	5	ND	5	26	1	3	2	18	.59	.054	12	30	1.13	34	.01	2	2.12	.02	.08	1	.001
R 27642	1	34	19	89	.2	38	16	695	5.28	16	5	ND	6	19	1	2	2	18	.27	.104	15	28	.94	54	.01	2	2.08	.02	.08	1	.001
R 27643	1	70	56	36	.8	23	9	1152	3.44	10	5	ND	1	21	1	2	3	5	.64	.038	6	6	.31	49	.01	2	.46	.01	.03	1	.001
R 27644	3	54	77	86	.9	45	17	1062	5.29	13	5	ND	4	15	1	2	2	15	.16	.056	9	26	.69	53	.01	2	1.56	.02	.08	2	.001
R 27645	1	58	109	82	.8	45	31	971	4.98	38	5	ND	3	23	1	2	2	15	.50	.041	6	25	.90	66	.01	2	1.67	.02	.09	1	.001
R 27646	1	24	129	24	.9	23	8	1196	2.68	6	5	ND	1	18	1	2	3	3	.48	.028	6	7	.20	42	.01	2	.26	.01	.03	2	.001
R 27647	1	35	17	82	.1	37	15	743	4.72	10	5	ND	3	15	1	2	2	17	.20	.051	11	27	.89	50	.01	3	1.92	.02	.07	2	.001
R 27648	1	32	20	79	.1	35	15	699	4.32	10	5	ND	6	15	1	2	2	16	.16	.053	17	26	.87	38	.01	2	1.90	.02	.08	1	.001
R 27649	5	47	8	38	1.1	33	12	1109	5.00	12	5	ND	1	131	3	2	5	3	4.83	.017	2	6	.71	34	.01	3	.27	.01	.03	1	.001
R 27650	1	34	13	152	.1	56	14	901	4.38	2	5	ND	5	16	1	2	2	12	.31	.056	15	15	.61	58	.01	2	1.08	.02	.08	1	.001
R 27651	2	37	14	187	.4	81	12	1900	6.47	2	5	ND	3	16	1	2	2	8	.27	.038	7	10	.36	62	.01	2	.61	.01	.05	1	.001
R 27652	1	85	6	117	.4	33	15	312	3.51	2	5	ND	2	17	1	2	2	9	.41	.044	8	14	.65	51	.01	2	.88	.01	.07	1	.001
R 27653	17	72	11	215	1.3	92	11	1824	5.42	3	5	ND	5	29	3	2	2	10	.44	.038	4	10	.44	95	.01	5	.41	.01	.06	1	.001
STD C	18	57	41	132	6.7	67	29	1060	3.84	39	20	6	37	47	16	16	18	59	.44	.094	39	52	.82	177	.07	32	1.77	.06	.16	12	-

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au** OZ/T
R 27654	23	68	29	284	.7	100	8	1889	4.13	2	5	ND	3	13	1	2	2	8	.17	.036	2	10	.24	127	.01	2	.36	.01	.05	1	.001
R 27655	3	60	7	173	.5	62	8	928	2.37	2	5	ND	3	13	1	2	2	10	.22	.024	3	18	.85	68	.01	3	.88	.01	.05	1	.001
R 27656	1	16	8	40	.1	16	2	265	.72	2	5	ND	1	11	1	2	2	2	.21	.012	2	8	.15	27	.01	2	.14	.01	.02	7	.001
R 27657	7	97	16	103	.2	68	13	337	3.54	2	5	ND	2	15	1	2	3	10	.25	.035	2	13	.68	56	.01	2	.84	.01	.06	1	.001
R 27658	29	106	16	316	.2	73	13	328	4.01	2	5	ND	2	13	2	3	2	19	.19	.044	3	16	.47	37	.01	2	.64	.01	.06	1	.001
R 27659	12	64	19	205	.9	62	13	1242	5.30	2	5	ND	4	33	1	2	2	8	.60	.052	3	10	.42	45	.01	2	.43	.01	.06	1	.001
R 27660	12	47	13	152	.5	56	12	1516	5.98	2	5	ND	3	22	1	3	2	7	.45	.046	5	10	.37	48	.01	2	.50	.01	.06	1	.001
R 27661	3	47	10	223	.2	43	11	514	4.32	2	5	ND	2	17	1	2	2	9	.37	.042	5	12	.54	33	.01	2	.80	.01	.05	1	.001
R 27662	9	60	18	250	.2	64	15	959	4.52	3	5	ND	4	10	1	2	2	10	.17	.047	7	14	.36	47	.01	2	.77	.01	.05	1	.001
R 27663	3	46	12	129	.2	41	13	384	3.61	3	5	ND	3	10	1	2	2	7	.30	.037	5	14	.34	27	.01	2	.80	.01	.05	1	.001
R 27664	15	78	28	366	1.0	96	14	1562	3.99	2	5	ND	6	11	5	2	2	9	.14	.056	5	9	.13	63	.01	2	.30	.01	.06	1	.001
R 27665	17	64	10	436	.6	62	12	617	3.71	2	5	ND	7	8	2	2	2	10	.10	.053	11	5	.03	46	.01	2	.23	.01	.07	1	.001
R 27666	1	35	12	100	.1	36	15	584	3.83	2	5	ND	4	11	1	2	2	9	.15	.044	12	14	.54	33	.01	2	1.10	.01	.06	1	.001
R 27667	13	66	9	397	.8	97	13	1267	6.44	2	5	ND	3	13	2	2	2	10	.20	.082	4	11	.24	70	.01	2	.47	.01	.07	1	.001
R 27668	5	41	8	209	.1	77	14	2218	6.94	2	5	ND	3	16	1	2	2	7	.19	.062	5	14	.27	93	.01	2	.54	.01	.07	1	.001
R 27669	2	40	8	86	.2	29	11	593	3.59	2	5	ND	3	49	1	2	2	5	1.18	.043	3	9	.77	40	.01	2	.60	.01	.05	1	.001
R 27670	5	77	17	106	.5	35	8	515	2.53	24	5	ND	4	88	1	2	2	7	1.25	.068	2	11	.67	33	.01	4	.14	.02	.03	1	.001
R 27671	9	44	14	162	.3	41	13	684	3.10	24	5	ND	3	44	1	2	2	7	.72	.058	2	5	.41	37	.01	2	.17	.01	.03	1	.001
R 27672	14	89	24	257	.5	54	12	390	3.35	20	5	ND	3	33	1	2	2	19	.53	.039	2	14	.57	47	.01	2	.43	.01	.04	2	.001
R 27673	18	44	18	215	.3	41	8	438	2.32	17	5	ND	2	74	1	2	2	6	1.46	.057	2	9	.66	34	.01	2	.35	.01	.03	1	.001
R 27674	1	61	20	98	.6	44	5	562	2.27	3	5	ND	5	13	1	3	2	10	.19	.025	5	19	.58	62	.01	6	.66	.01	.04	1	.001
R 27676	2	47	35	183	.3	31	4	630	1.62	2	5	ND	3	47	1	3	2	3	.82	.036	4	10	.43	55	.01	2	.21	.01	.05	3	.001
R 27677	1	52	32	123	.8	27	4	643	1.40	2	5	ND	4	35	1	3	2	2	.64	.014	2	6	.32	43	.01	2	.15	.01	.03	1	.001
R 27678	2	35	47	88	.7	27	3	788	1.30	2	5	ND	2	24	1	3	2	1	.54	.019	2	9	.24	39	.01	4	.11	.01	.03	4	.001
R 27679	1	72	45	64	.4	35	5	868	1.53	2	5	ND	2	23	1	2	2	1	.50	.027	2	5	.19	33	.01	18	.08	.01	.02	1	.001
R 27680	1	46	14	175	.6	30	5	348	2.01	2	5	ND	4	10	1	2	2	9	.12	.022	6	13	.54	55	.01	2	.69	.01	.05	3	.001
R 27681	3	26	7	57	.1	35	7	903	2.65	6	5	ND	5	17	1	2	2	3	.57	.038	16	9	.15	36	.01	2	.20	.01	.04	3	.001
R 27682	2	16	46	135	.2	27	7	1263	3.94	3	5	ND	7	185	1	2	2	3	5.99	.034	12	8	.49	42	.01	2	.19	.01	.04	1	.001
R 27683	7	44	254	577	5.1	37	9	702	2.92	2	5	ND	7	11	2	2	2	4	.18	.031	19	9	.04	24	.01	2	.14	.01	.04	3	.002
R 27684	2	18	34	105	1.0	41	6	1011	2.40	3	5	ND	8	8	1	3	2	7	.21	.025	15	11	.31	29	.01	5	.55	.01	.03	1	.001
R 27685	3	29	55	56	.9	24	8	1423	2.72	2	5	ND	6	22	1	2	3	6	.40	.029	15	16	.31	32	.01	6	.65	.01	.03	4	.002
R 27686	4	42	15	37	.1	19	8	1070	3.16	2	5	ND	5	22	1	3	2	3	.78	.022	14	9	.21	22	.01	2	.42	.01	.03	2	.001
R 27687	1	9	4	19	.4	10	2	328	1.08	2	5	ND	6	8	1	2	2	3	.13	.009	8	8	.15	11	.01	7	.32	.01	.02	5	.001
R 27688	17	58	77	279	1.2	60	10	887	2.82	2	5	ND	6	95	3	3	2	5	2.34	.060	6	2	.05	36	.01	4	.10	.01	.04	1	.001
R 27689	10	29	5	173	.1	13	2	162	.58	5	21	ND	2	85	11	2	2	11	7.03	.057	3	5	.07	13	.01	3	.03	.01	.02	5	.001
R 27690	47	75	15	182	.9	50	8	3061	3.46	21	5	ND	5	57	1	2	2	9	1.29	.019	5	7	.45	69	.01	3	.15	.01	.03	1	.001
PIT 2	67	63	18	180	.8	103	11	391	4.15	2	22	ND	9	112	2	3	2	10	2.92	.043	11	10	.81	33	.01	2	.31	.01	.06	1	.001
STD C	18	56	38	131	6.6	67	28	1006	3.87	38	21	8	39	48	16	17	19	56	.47	.082	36	55	.85	173	.06	34	1.80	.06	.14	12	-

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: NOV 23 1988

DATE REPORT MAILED: Nov. 28/88

ASSAY CERTIFICATE

- SAMPLE TYPE: Core AU** AND AG** BY FIRE ASSAY FROM 1 A.T.

SIGNED BY..... D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

D.D.H. GEOMANAGEMENT LTD. PROJECT ARMADA FILE # 88-5988 Page 1

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38001	.01	.001
B 38002	.01	.001
B 38003	.01	.001
B 38004	.01	.001
B 38005	.01	.001
B 38006	.01	.001
B 38007	.01	.001
B 38008	.01	.001
B 38009	.01	.001
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B 38016	.01	.011
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B 38021	.01	.001
B 38022	.02	.001
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B 38024	.04	.001
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B 38031	.01	.001
B 38032	.01	.001
B 38033	.03	.001
B 38034	.02	.002
B 38035	.03	.001
B 38036	.01	.001
B 38037	.03	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38038	.01	.001
B 38039	.01	.003
B 38040	.01	.003
B 38041	.02	.001
B 38042	.01	.001
B 38043	.01	.001
B 38044	.01	.001
B 38045	.01	.001
B 38046	.02	.001
B 38047	.02	.001
B 38048	.01	.001
B 38049	.01	.001
B 38050	.02	.001
B 38051	.03	.001
B 38052	.04	.001
B 38053	.08	.026
B 38054	.04	.001
B 38055	.01	.001
B 38056	.04	.001
B 38057	.01	.001
B 38058	.02	.001
B 38059	.01	.001
B 38060	.03	.001
B 38061	.01	.001
B 38062	.01	.001
B 38063	.02	.001
B 38064	.02	.002
B 38065	.02	.011
B 38066	.19	.095
B 38067	.03	.003
B 38068	.01	.001
B 38069	.01	.003
B 38070	.01	.003
B 38071	.01	.001
B 38072	.02	.008
B 38073	.03	.010

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38074	.01	.001
B 38075	.01	.001
B 38076	.03	.001
B 38077	.02	.001
B 38078	.01	.001
B 38079	.01	.001
B 38080	.01	.001
B 38081	.02	.001
B 38082	.04	.001
B 38083	.01	.001
B 38084	.01	.001
B 38085	.01	.001
B 38086	.01	.001
B 38087	.02	.001
B 38088	.01	.001
B 38089	.01	.001
B 38090	.03	.001
B 38091	.02	.001
B 38092	.01	.001
B 38093	.02	.001
B 38094	.01	.005
B 38095	.01	.001
B 38096	.04	.001
B 38097	.02	.001
B 38098	.03	.001
B 38099	.01	.001
B 38100	.03	.001
B 38101	.02	.001
B 38102	.04	.001
B 38103	.03	.001
B 38104	.03	.001
B 38105	.01	.001
B 38106	.03	.001
B 38107	.03	.001
B 38108	.01	.001
B 38109	.01	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38110	.01	.001
B 38111	.07	.001
B 38112	.06	.001
B 38113	.01	.001
B 38114	.03	.001
B 38115	.05	.001
B 38116	.01	.001
B 38117	.03	.001
B 38118	.01	.001
B 38119	.02	.001
B 38120	.01	.001
B 38121	.04	.001
B 38122	.01	.001
B 38123	.06	.001
B 38124	.01	.001
B 38125	.01	.001
B 38126	.05	.001
B 38127	.02	.001
B 38128	.01	.001
B 38129	.01	.001
B 38130	.02	.001
B 38131	.03	.001
B 38132	.01	.001
B 38133	.03	.001
B 38134	.01	.001
B 38135	.02	.001
B 38136	.03	.001
B 38137	.01	.001
B 38138	.06	.001
B 38139	.01	.001
B 38140	.05	.001
B 38141	.02	.001
B 38142	.02	.001
B 38143	.01	.001
B 38144	.01	.001

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: DEC 2 1988

DATE REPORT MAILED: Dec. 7/88.

ASSAY CERTIFICATE

- SAMPLE TYPE: Core AU** AND AG** BY FIRE ASSAY FROM 1 A.T.

SIGNED BY..... D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

D.D.H. GEOMANAGEMENT LTD. PROJECT ARMADA FILE # 88-6125 Page 1

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38145	.03	.001
B 38146	.04	.001
B 38147	.03	.001
B 38148	.01	.001
B 38149	.05	.001
B 38150	.04	.001
B 38151	.01	.001
B 38152	.04	.001
B 38153	.03	.001
B 38154	.01	.001
B 38155	.01	.001
B 38156	.01	.001
B 38157	.04	.001
B 38158	.02	.001
B 38159	.02	.001
B 38160	.02	.001
B 38161	.03	.001
B 38162	.01	.001
B 38163	.05	.001
B 38164	.03	.001
B 38165	.02	.001
B 38166	.01	.001
B 38167	.03	.001
B 38168	.03	.001
B 38169	.02	.001
B 38170	.02	.001
B 38171	.02	.001
B 38172	.01	.001
B 38173	.01	.001
B 38174	.07	.001
B 38175	.04	.001
B 38176	.02	.001
B 38177	.01	.001
B 38178	.01	.001
B 38179	.02	.001
B 38180	.03	.001
B 38181	.01	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38182	.01	.001
B 38183	.02	.001
B 38184	.01	.001
B 38185	.03	.001
B 38186	.03	.001
B 38187	.06	.001
B 38188	.04	.001
B 38189	.04	.001
B 38190	.02	.001
B 38191	.01	.001
B 38192	.02	.001
B 38193	.06	.001
B 38194	.01	.001
B 38195	.03	.001
B 38196	.03	.001
B 38197	.01	.001
B 38198	.04	.001
B 38199	.03	.001
B 38200	.01	.001
B 38201	.02	.001
B 38202	.03	.001
B 38203	.02	.001
B 38204	.04	.001
B 38205	.04	.001
B 38206	.04	.001
B 38207	.04	.001
B 38208	.01	.001
B 38209	.04	.001
B 38210	.03	.001
B 38211	.02	.001
B 38212	.01	.001
B 38213	.06	.001
B 38214	.04	.001
B 38215	.02	.001
B 38216	.01	.001
B 38217	.01	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38218	.01	.001
B 38219	.01	.001
B 38220	.01	.001
B 38221	.01	.001
B 38222	.01	.001
B 38223	.01	.001
B 38224	.01	.001
B 38225	.01	.001
B 38226	.01	.001
B 38227	.02	.001
B 38228	.02	.001
B 38229	.01	.001
B 38230	.01	.001
B 38231	.01	.001
B 38232	.01	.001
B 38233	.01	.001
B 38234	.01	.001
B 38235	.01	.001
B 38236	.03	.001
B 38237	.03	.001
B 38238	.01	.001
B 38239	.01	.001
B 38240	.03	.001
B 38241	.01	.001
B 38242	.01	.001
B 38243	.01	.001
B 38244	.01	.001
B 38245	.01	.001
B 38246	.03	.001
B 38247	.02	.001
B 38248	.01	.001
B 38249	.02	.001
B 38250	.01	.001
B 38251	.02	.001
B 38252	.02	.001
B 38253	.01	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38254	.01	.001
B 38255	.01	.001
B 38256	.03	.001
B 38257	.04	.001
B 38258	.03	.001
B 38259	.01	.001
B 38260	.01	.001
B 38261	.01	.001
B 38262	.02	.001
B 38263	.03	.002
B 38264	.04	.001
B 38265	.05	.001
B 38266	.03	.001
B 38267	.02	.001
B 38268	.01	.001
B 38269	.02	.001
B 38270	.02	.001
B 38271	.01	.001
B 38272	.02	.001
B 38273	.03	.014
B 38274	.03	.001
B 38275	.01	.001
B 38276	.03	.001
B 38277	.09	.003
B 38278	.01	.001
B 38279	.04	.001
B 38280	.01	.001
B 38281	.02	.001
B 38282	.03	.001
B 38283	.01	.001
B 38284	.03	.001
B 38285	.01	.001
B 38286	.06	.001
B 38287	.02	.001
B 38288	.03	.001
B 38289	.01	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38290	.03	.001
B 38291	.05	.001
B 38292	.02	.001
B 38293	.02	.001
B 38294	.01	.001
B 38295	.07	.001
B 38296	.01	.001
B 38297	.01	.001
B 38298	.05	.002
B 38299	.04	.001
B 38300	.07	.001
B 38301	.03	.001
B 38302	.03	.001
B 38303	.08	.007
B 38304	.05	.003
B 38305	.01	.001
B 38306	.03	.001
B 38307	.03	.055
B 38308	.02	.001
B 38309	.03	.001
B 38310	.01	.001
B 38311	.07	.001
B 38312	.01	.001
B 38313	.01	.001
B 38314	.01	.001
B 38315	.01	.001
B 38316	.09	.003
B 38317	.07	.001
B 38318	.06	.003
B 38319	.06	.003
B 38320	.01	.001
B 38321	.08	.001
B 38322	.03	.001
B 38323	.02	.001
B 38324	.02	.001
B 38325	.01	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38326	.03	.001
B 38327	.03	.001
B 38328	.03	.001
B 38329	.01	.001
B 38330	.01	.001
B 38331	.02	.001
B 38332	.08	.001
B 38333	.01	.001
B 38334	.01	.001
B 38335	.01	.001
B 38336	.03	.004
B 38337	.04	.004
B 38338	.01	.001
B 38339	.01	.005
B 38340	.04	.003
B 38341	.01	.001
B 38342	.03	.018
B 38343	.06	.001
B 38344	.01	.001
B 38345	.05	.001
B 38346	.05	.001
B 38347	.13	.001
B 38348	.02	.005

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716 DATE RECEIVED: DEC 12 1988
DATE REPORT MAILED: Dec. 19/88.

ASSAY CERTIFICATE

- SAMPLE TYPE: Core AU** AND AG** BY FIRE ASSAY FROM 1 A.T.

SIGNED BY. C. Leong. D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

D.D.H GEOMANAGEMENT LTD. PROJECT ARMADA FILE # 88-6246 Page 1

SAMPLE#	Ag** OZ/T	Au** OZ/T	
			Hole 3
B 38349	.07	.001	
B 38350	.10	.001	
B 38351	.04	.001	
B 38352	.04	.001	
B 38353	.02	.001	
B 38354	.01	.002	
B 38355	.03	.001	Hole 4
B 38356	.02	.001	
B 38357	.13	.001	
B 38358	.03	.001	
B 38359	.04	.001	
B 38360	.04	.001	
B 38361	.03	.001	
B 38362	.07	.001	
B 38363	.04	.001	
B 38364	.05	.001	
B 38365	.03	.001	
B 38366	.02	.001	
B 38367	.07	.001	
B 38368	.04	.001	
B 38369	.02	.001	
B 38370	.03	.001	
B 38371	.02	.001	
B 38372	.02	.001	
B 38373	.02	.001	
B 38374	.04	.001	
B 38375	.04	.001	
B 38376	.03	.001	
B 38377	.01	.001	
B 38378	.01	.001	
B 38379	.01	.001	
B 38380	.01	.001	
B 38381	.02	.001	
B 38382	.01	.001	
B 38383	.02	.001	
B 38384	.01	.001	

SAMPLE#	Ag** OZ/T	Au** OZ/T	
B 38385	.04	.001	
B 38386	.01	.001	
B 38387	.01	.001	
B 38388	.03	.001	
B 38389	.01	.001	
B 38390	.01	.001	
B 38391	.01	.001	
B 38392	.01	.001	
B 38393	.01	.001	
B 38394	.01	.001	
B 38395	.01	.001	
B 38396	.02	.001	
B 38397	.03	.001	
B 38398	.02	.001	
B 38399	.01	.001	
B 38400	.03	.001	
B 38401	.02	.001	
B 38402	.02	.001	
B 38403	.03	.001	
B 38404	.01	.001	
B 38405	.01	.001	
B 38406	.01	.001	
B 38407	.02	.001	
B 38408	.02	.001	
B 38409	.05	.001	
B 38410	.05	.001	
B 38411	.02	.001	
B 38412	.01	.001	
B 38413	.07	.044	Hole 4 - 344 - 347 ft
B 38414	.04	.001	
B 38415	.05	.002	
B 38416	.02	.001	
B 38417	.02	.001	
B 38418	.03	.001	
B 38419	.03	.001	
B 38420	.02	.001	

SAMPLE#	Ag** OZ/T	Au** OZ/T	
B 38421	.04	.025	377 - 382 ft
B 38422	.03	.014	382 - 387 ft
B 38423	.01	.002	
B 38424	.01	.001	
B 38425	.01	.001	
B 38426	.01	.001	
B 38427	.01	.001	
B 38428	.01	.001	
B 38429	.01	.001	
B 38430	.01	.001	
B 38431	.04	.001	
B 38432	.01	.001	
B 38433	.01	.001	
B 38434	.04	.007	
B 38435	.03	.010	
B 38436	.01	.001	
B 38437	.01	.001	
B 38438	.01	.002	
B 38439	.03	.007	
B 38440	.01	.001	
B 38441	.02	.001	
B 38442	.01	.001	
B 38443	.01	.001	
B 38444	.01	.001	
B 38445	.01	.001	
B 38446	.01	.001	
B 38447	.01	.001	
B 38448	.01	.001	
B 38449	.01	.001	
B 38450	.01	.001	
B 38451	.04	.001	
B 38452	.01	.001	
B 38453	.02	.001	
B 38454	.01	.001	
B 38455	.01	.001	
B 38456	.01	.001	

SAMPLE#	Ag** OZ/T	Au** OZ/T	
B 38457	.03	.001	
B 38458	.01	.001	
B 38459	.02	.001	
B 38460	.01	.001	
B 38461	.01	.001	end Hole 4
B 38462	.03	.001	Hole 5
B 38463	.05	.001	
B 38464	.02	.001	
B 38465	.01	.001	
B 38466	.03	.001	
B 38467	.01	.001	
B 38468	.01	.001	
B 38469	.01	.001	
B 38470	.01	.001	
B 38471	.06	.001	
B 38472	.04	.001	
B 38473	.01	.017	
B 38474	.07	.005	
B 38475	.02	.001	
B 38476	.03	.001	
B 38477	.01	.001	
B 38478	.01	.001	
B 38479	.05	.003	
B 38480	.08	.001	
B 38481	.02	.001	
B 38482	.02	.001	
B 38483	.03	.001	
B 38484	.01	.001	
B 38485	.02	.001	
B 38486	.02	.001	
B 38487	.05	.001	
B 38488	.03	.001	
B 38489	.03	.001	
B 38490	.04	.001	
B 38491	.07	.001	
B 38492	.01	.001	

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38493	.01	.001
B 38494	.02	.001
B 38495	.01	.001
B 38496	.01	.001
B 38497	.01	.001
B 38498	.06	.001
B 38499	.01	.001
B 38500	.01	.001
B 38501	.01	.001
B 38502	.01	.001
B 38503	.01	.001
B 38504	.01	.001
B 38505	.02	.001
B 38506	.03	.001
B 38507	.03	.001
B 38508	.01	.001
B 38509	.01	.001
B 38510	.01	.001
B 38511	.02	.001
B 38512	.01	.001
B 38513	.01	.001
B 38514	.01	.001
B 38515	.01	.001
B 38516	.01	.001
B 38517	.02	.001
B 38518	.01	.001
B 38519	.01	.001
B 38520	.01	.001
B 38521	.01	.001
B 38522	.01	.001
B 38523	.02	.001
B 38524	.01	.001
B 38525	.01	.001
B 38526	.01	.001
B 38527	.01	.001
B 38528	.01	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38529	.03	.001
B 38530	.01	.001
B 38531	.01	.001
B 38532	.01	.001
B 38533	.01	.001
B 38534	.01	.001
B 38535	.01	.001
B 38536	.01	.001
B 38537	.01	.001
B 38538	.01	.001
B 38539	.01	.001
B 38540	.01	.001
B 38541	.01	.001
B 38542	.01	.001
B 38543	.01	.001
B 38544	.02	.001
B 38545	.01	.001
B 38546	.02	.001
B 38547	.02	.001
B 38548	.01	.001
B 38549	.01	.001
B 38550	.06	.001
B 38551	.01	.001
B 38552	.02	.001
B 38553	.02	.001
B 38554	.04	.003
B 38555	.03	.001
B 38556	.01	.001
B 38557	.01	.001
B 38558	.01	.001
B 38559	.02	.001
B 38560	.02	.001
B 38561	.01	.001
B 38562	.01	.001
B 38563	.01	.001
B 38564	.01	.001

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38565	.01	.001
B 38566	.01	.001
B 38567	.03	.001
B 38568	.07	.001
B 38569	.07	.001
B 38570	.03	.001
B 38571	.06	.001
B 38572	.07	.001

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716 DATE RECEIVED: JAN 10 1989
DATE REPORT MAILED: Jan. 11/89.

ASSAY CERTIFICATE

- SAMPLE TYPE: CRUSHED ROCK
AU** AND AG** BY FIRE ASSAY FROM 1 A.T.

SIGNED BY. C. Leong D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

D.D.H. GEOMANAGEMENT LTD. PROJECT AGM FILE # 89-0062

SAMPLE#	Ag** OZ/T	Au** OZ/T
B 38573	.01	.002
B 38574	.06	.002
B 38575	.36	.078
B 38576	.02	.001
B 38577	.04	.012
B 38578	.14	.042
B 38579	.04	.005
B 38580	.04	.009
B 38581	.09	.099
B 38582	.04	.016
B 38583	.08	.265
B 38584	.21	.965
B 38585	.12	.083
B 38586	.10	.048
B 38587	.10	.002

APPENDIX B

DIAMOND DRILL LOGS

DIAMOND DRILL LOG

PROPERTY Armada Gold TOWNSHIP

DATE Nov. 19, 1988 PAGE: 1 OF 5

HOLE NO. DDH-88-1 DIP -60 AZMIUTH 35° LOGGED BY D.A. Howard

CORE SIZE HQ TOTAL FOOTAGE 597 DIP TEST: YES/NO

DIP FOOTAGE AND DEGREE -62° @ 597 (corrected)

CASING LEFT IN HOLE: YES/NO CASING FOOTAGE 15'

DRILL TIME: START Nov. 17, 1988 FINISH Nov. 20, 1988 (Night shift) MECHANICAL TIME

MISCELLANEOUS PROBLEMS Casing had to be drilled down several times due to soft surface conditions.

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
0 – 15 (0 – 4.57m)	Overburden		
15 – 83 (4.57 – 25.3m)	Black, v.f.g. thinly laminated, crenulated foliation, some hairline white silty bandings parallel to foliation local f.g. (1–2mm) porphyroblasts (very fresh – no limonite) porphyro blasts randomly oriented, very siliceous knotted Phyllite, Unit 4 No quartz veins, Several 1–3mm very irregular pyrrhotite veins cross cutting foliation / beddings Trace pyrrhotite on foliation. Fine bandings / foliation wavy to open kinked 45–80° very irregular – no defined dip 27–30 Intensely shattered, slightly carbonaceous Remainder of section fairly massive.	15–20 38001 20–25 002 25–30 003 30–35 004 35–40 005 40–45 006 45–50 007 50–55 008 55–60 009 60–65 38010 65–70 011 70–75 012 75–80 013 80–83 014	
83 – 115 (25.3 – 35.05m)	Black, mod. soft, siliceous, locally well laminated, locally white hairline silty bandings, minor foldings, well foliated (20–70°) very irregular bedding / foliation, very locally f.g. porphyroblasts (1–2mm), mod. carbonaceous knotted phyllite with very heavy quartz veining. Quarte veins have random orientation, intense shattery, heavy carbonate alteration (angular carbonate 1–3mm grains, randomly distributed throughout vein). Veins usually surrounded by very graphitic phyllite Very minor pyrite (open space type) associated with quartz veining	83–86 015 86–91 016 91–93 017 93–97 018 ok 97–104 38020 104–108 021 108–112 022 112–115 023	

PROPERTY Armada Gold HOLE NO. 88-1 PAGE: 2 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
	86-91 Brecciated quartz vein with phyllite angular frags. Mod heavy carbonate		
	91-104 40% quartz vein - same as above		
	91-93 Blk phyllite		
	104-112 Mainly carbonaceous/graphitic phyllite		
		115-120 38024	
115-128 (35.05-39m)	Black, slightly soft, siliceous, finely laminated, hairline white silty beds, well foliated/bedded (Parallel) 30-45° minor folding, very little quartz, rare porphyroblasts. Unit 4	120-125 025	
		125-128 026	
	Contact 45° slightly crushed	128-133 027	
		133-138 028	
128-157 (39-47.85m)	Medium gray, v.f.g., locally well bedded (0-30°) mod brecciated (quartz/carb veining) (hairline to 5mm) slightly siliceous Limestone. Looks like material in L.S. boudins at surface	138-143 029	
		143-148 38030	
		148-153 031	
		153-157 032	
	Contact 30 V. sharp		
		157-162 033	
157-352 (47.85-107.29m)	Black, v.f.g., slightly soft, finely laminated, mainly wispy banding but also hairline white kinked siltstone bands, siliceous, locally porphyroblastic (2-5mm knots) very graphitic, slickensided parallel to foliation, phyllite.	162-167 034	
		167-172 035	
		172-177 036	
		177-182 037	
		182-187 038	
	Foliation/bedding ~30-45° parallel (Highly variable) Porphyro blasts parallel to foliation, not rotated No quartz veins between 157 + 201'	187-192 039	0.003
		192-197 38040	0.003
		197-201 041	
		201-205 042	
	201-205 30% irregular quartz veins appear partially brecciated. Pale green v.f.g. frags in 30cm qtz vein at 204-205. Quartz contains ±10% carbonate + trace pyrite - mostly on margins of vein	205-210 043	
		210-215 044	
		215-220 045	
		220-224 046	
		224-227 047	
	205-221 Increase in % of porphyroblasts and size (4-6mm)	227-230 38048	
	224-230 Very graphitic, 20% quartz vein, minor breccia with pale green frags - see above		

PROPERTY Armada Gold HOLE NO. BB-1 PAGE: 3 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
	221-285 Sharp reduction in porphyroblasts, only occurs locally.	230-235 38049	
		235-240 050	
		240-245 051	
	245-250 4 qtz veins 3cm, 10cm, 38cm 12cm All heavy in carb ± Tr. py.	245-250 052	
		250-255 053	0.026
	250-255 1-40cm qtz vein + 1-45cm mainly carb + tr py.	255-260 054	
		260-265 055	
	255-260 1-4cm + 1-13cm qtz vein, heavy carb. Tr. py.	265-271 056	
		271-276 057	
	260-265 1-100cm qtz vein, varialle carb, wispy bands of graphitic phyllite.	276-281 058	
		281-286 059	
		286-291 38060	
	265-271 Very graphitic, broken 10% qtz/carb veinings Tr py	291-296 061	
		296-301 062	
		301-306 063	
		306-311 064	0.002
	271-281 Only minor qtz veins (2-1-2cm)	311-314.5 065	0.011
		314.5-319 066	0.095
		319-324 067	0.003
	285- Sharp increase in % porphyroblasts (4-6mm) Porphyro blasts parallel to foliation, commonly rotated. Slightly more py along some foliation planes and rare clots.	324-329 068	0.001
		329-334 069	0.003
		334-337 38070	0.003
		337-342 071	0.001
	281-286 1-30cm qtz vein w/ 1% py veining (clotty) along margins. 1-1cm x 2cm clot of pyrrhotite + py at 281		
	286-291 1-4cm qtz vein containing 40% brecciated carb.		
	291-296 - No quartz		
	296-301 1-45cm qtz/carb vein		
	301-314.5 Minor qtz		
	314.5-324. Massive qtz vein Tr py and galena + sphalerite on one fracture, 5% carb + narrow phyllite bands Upper contact 70°, Lower Contact 50°		
	324-329 1-30cm qtz vein, partial		
	329-334 1-20cm, 1-15cm, 1-58cm qtz/carb veins with phyllite inclusions. All contain carbonate.		
	334-337 Blk phyllite. Heavy graphite		
	337-342 1-28cm, 1-30cm, 1-45cm qtz veins. 45cm has very heavy carb., 30cm one well brecciated		

PROPERTY Armada Gold HOLE NO. 88-1 PAGE: 4 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
	342-347 Broken, 80% qtz vein Very heavy carb, Tr py	342-347 38072	0.008
	347-352 2-10cm, 1-20cm qtz/carb veins. Some chl in 20cm vein	347-352 073	0.010
	352 Contact 60° sharp graphitic	352-357 074	
352-450 (107.29-137.16m)	Med. gray, thinly bedded, v.f.g., massive, slightly fractured (ragged qtz veining (1-10mm), random orientation of veining) Limestone Bed. 1-10mm thick Local heavy carbon. Some v. massive beds up to 2m thick Bedding 30-60°, minor ~~~ of qtz veins Limestone fairly carbonaceous but not fetid Disseminated coarse ±1mm pyrrhotite common.	357-362 075 362-367 076 367-372 077 372-377 078 377-382 079 382-387 38080 387-392 081 392-397 082 397-402 083 402-407 084 407-412 085 412-417 086 417-422 087 422-427 088 427-432 089 432-437 38090 437-442 091 442-447 092 447-450 093	
	450 Contact 45° sharp - 1cm graphite zone		
450-597 (137.16-181.97m)	Black, v.f.g., thinly laminated, (possible soft sed. deform.) thin ±1mm white silty bands, calcareous, finely (2-3mm) porphyroblastic. phyllite. Porphyroblasts not always present. Good unit 4.	450-455 094 455-460 095 460-465 096 465-470 097 470-475 098 475-480 099	
	Tr banded pyrrhotite	480-485 38100	
	Foliation/bedding variable (0-80°) i.e. intensely folded (at least bedding) foliation not so obvious	485-490 101 490-495 102 495-500 103	
	504.5-508 Very graphitic, broken, some qtz vein material (±10%)	500-504.5 104 504.5-508 105	
	519 1-15 cm qtz/carb vein	508-513 106	
	520-522 Several narrow qtz veins, Zone 517-522 also contains a few 5mm clots of pyrrhotite	513-517 107 517-522 108	

PROPERTY Armada Gold HOLE NO. 88-1 PAGE: 5 OF 5

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS
527-529	Folded 20cm qtz vein down axis of core No obvious carb.	522-527 38109	
547-552	- 2-10cm qtz/carb veins	527-532 38110	
577-579	Mixed (brecciated) qtz/carb vein and phyllite	532-537 111	
585 -	1-10cm qtz/carb. vein	537-542 112	
589-591	Possible fault zone - graphitic gouge	542-547 113	
592-597	Several 1-2 cm qtz/carb veins, Bedding/foliation veins @ 55°	547-552 114	
		552-557 115	
	E.O.H 597'	557-562 116	
		562-567 117	
		567-572 118	
		572-577 119	
		577-582 38120	
		582-587 121	
		587-592 122	
		592-597 123	

DIAMOND DRILL LOG

PROPERTY Armada Gold TOWNSHIP _____

DATE Nov. 22, 1988 PAGE: 1 OF 4

HOLE NO. DDH-88-2 DIP -60 AZMIUTH 035 LOGGED BY D. A. Howard

CORE SIZE HQ TOTAL FOOTAGE 682 DIP TEST: (YES)/NO

DIP FOOTAGE AND DEGREE -64° @ 682'

CASING LEFT IN HOLE: YES/(NO) CASING FOOTAGE 37 feet

DRILL TIME: START Nov. 21, 1988 FINISH Nov. 25, 1988 MECHANICAL TIME _____

MISCELLANEOUS PROBLEMS _____

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
0-37 (0-11.3m)	Casing Bedrock at 35'		No Au assays greater than 0.001
37-304 (11.3-92.7m.)	Black, v.f.g., siliceous, fairly hard, well foliated/bedded (0-60 - mostly 35-45), white silty bed (hairline) common, well developed porphyroblasts, some rotated in foliation plane, beddings and foliation appear parallel, range in size from 2-6mm. mod. high schcen, typical knotted phyllite (Unit 4) Quartz/carbonate veining common and are usually associated with highly graphitic sections. Kink banding common Tr dis. py along some foliation/beddings planes.		
37-42	1- 30 cm qtz vein partially parallel to core axis	37-42 38124	
42-47		42-47 125	
47-52	1- 30 cm qtz/carb vein @ 45° No py.	47-52 126	
52-57		52-57 127	
57-62	1- 28cm qtz/carb vein @ 60	57-62 128	
62-67	1- 48 cm qtz/carb vein @ 45° Heavy carb + graphite	62-67 129	
67-72	1-20cm q/c @ 20° & 1-30cm q/c @ 40° Minor chl w/qtz	67-72 38130	
72-77	Minor narrow qtz veins	72-77 131	
77-82	1- 50cm q/c @ 60° & 1-50cm crushed qtz vein	77-82 132	
82-87	1- 50 cm qtz vein crushed, very graphitic	82-87 133	
87-112	Massive knotted phyllite Tr clots of pyrrhotite	87-92 134	
		92-97 135	
		97-102 136	
		102-107 137	
		107-112 138	

PROPERTY Armada Gold HOLE NO. D.D.H-88-2 PAGE: 2 OF 4

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS
112-117	Minor portion of qtz veins, intensely folded.	112-117 38139	
117-179	Massive knotted phyllite, no qtz veining	117-122 38140	
179-182	1-15cm q/c vein @ 30° plus minor veining	122-127 141	
182-187	Tr hairline - 1mm qtz. veins	127-132 142	
187-193	1-60cm q/c vein @ 50°, 1-92cm mixed q/c, phyllite vein @ 60° containing Tr-0.5% pyrite. Py occurs as veinlets and isolated clots near margin of phyllite inclusions and/or carbonate concentrations. Pyrite very granular and grainy. Some graphite at contacts	132-137 143 137-142 144 142-147 145 147-152 146 152-157 147	
193-198	1-50cm q/c vein (crushed/ground contacts) graphitic. Rare fine porphyroblasts in blk phyllite (< 1mm)	157-162 148 162-167 149 167-172 38150 172-177 151	
198-204	1-10cm clst of q/c, 1-35cm q/c vein @ 50° Phyllite contains numerous hairline - 2mm qtz veins	177-182 152 182-187 153 187-193 154 193-198 155 198-204 156	
204-304(?)	Knotted phyllite with lower schoen, rare v.f.g porphyroblasts (1-2mm), Fine white silty banding less prominent than above More carbonaceous (dull) than graphitic, locally very soft Very little quartz veining, Tr py and pyrrhotite. Both occur together. Below 246 white silty bands return to density found above 204.	204-209 157 209-214 158 214-219 159 219-224 38160 224-229 161 229-234 162 234-239 163 239-244 164 244-249 165 249-254 166 254-259 167 259-264 168 264-269 169 269-274 38170 274-279 171 279-284 172 284-289 173 289-294 174 294-299 175 299-304 176	
309-315	Crushed zone - possible fault, high carbon content	304-309 177 309-314 178 314-319 179	

PROPERTY Armada Gold HOLE NO. BB-2 PAGE: 3 OF 4

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
304-612 (92.7 - 186.5m)	304-612 Same blk phyllite as above but without any obvious porphyro blasts. Very gradational change. Only occasional narrow quartz vein. Bedding highly contorted. May be due to cross foliation of bedding i.e. deck of cards. Strong foliation @ ± 60°. See geol. sample BB-2-442. Rare clot of pyrrhotite.	319-324 38180 324-329 181 329-334 182 334-339 183 339-344 184 344-349 185 349-354 186 354-359 187 359-364 188 364-369 189 369-374 38190 374-379 191 379-384 192 384-389 193 389-394 194 394-399 195 399-404 196 404-409 197 409-414 198 414-419 199 419-424 38200 424-429 201 429-434 202 434-439 203 439-444 204 444-449 205 449-454 206 454-459 207 459-464 208 464-469 209 469-474 38210 474-479 211 479-484 212 484-489 213 489-494 214 494-499 215 499-504 216 504-509 217 509-514 218 514-519 219 519-524 38220 524-529 221 529-534 222	
	516-518 Lt. gray silty bed bedding, Bedding/fol 60° ± 519-524 - 1 - 8cm qtz vein @ 70° Fol/bedding 70° 524-529 1 - 8cm qtz/carb vein @ 70° with 5mm clotty py on lower contact.		

PROPERTY Armada Gold HOLE NO. 88-2 PAGE: 4 OF 4

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
		534-539 38223	
	575-588 Lt. gray well bedded 45° (locally highly contorted) silty bed Upper contact 40°, Lower contact 45°, marked by 3cm q/c vein	539-544 224	
		544-549 225	
		549-554 226	
		554-559 227	
	608-612 Very graphitic zone containing 65cm of qtz vein material (3 veins with variable contacts) Veins contain heavy carbonate, included graphitic phyllite and rare clots of pyrrhotite	559-564 228	
		564-569 229	
		569-574 38 230	
		574-579 231	
		579-584 232	
	612 Contact 70° Sharp - graphite smear against qtz/carb vein	584-589 233	
		589-594 234	
		594-599 235	
612-660	Med. gray, v.f.g. thinly bedded, recumbently folded, mod. shattered (qtz/calcite veining) massive Limestone Non folded beddings 70°	599-604 236	
		604-608 237	
		608-612 238	
		612-617 239	
		617-622 38240	
	660 Contact 60° sharp, graphitic, 2cm qtz vein.	622-627 241	
		627-632 242	
		632-637 243	
660-682	Black, v.f.g. well foliated, (30° but very kinked) rare white silty bed (also ± 30°) carbonaceous dull appearing phyllite, - 1.Hte or no schoen Rare clots of pyrite along a few beddings planes.	637-642 244	
		642-647 245	
		647-652 246	
		652-657 247	
		657-660 248	
		660-665 249	
		665-670 38250	
	674- Narrow (20-30 cm) crushed/breccia zone - Small magnitude fault - unable to determine attitude.	670-675 251	
		675-682 252	
	674-682 Well developed porphyroblast (knotted phyllite) No change in basic rock type. Possibly more siliceous and hard, breaks in short frags. Very difficult drilling below 660.		
	682 E.O.H		

DIAMOND DRILL LOG

PROPERTY Armada Gold TOWNSHIP

DATE Nov. 28, 1988 PAGE: 1 OF 5

HOLE NO. DDH-88-3 DIP -45° AZMIUTH 035 LOGGED BY D.A Howard

CORE SIZE HQ TOTAL FOOTAGE 555' DIP TEST: (YES)/NO

DIP FOOTAGE AND DEGREE 43.5° @ 555'

CASING LEFT IN HOLE: YES/NO CASING FOOTAGE 63'

DRILL TIME: START Nov. 26, 1988 FINISH Dec 1, 1988 MECHANICAL TIME

MISCELLANEOUS PROBLEMS Casing unscrewed 15' below collar and attempt to recover failed so 50' of casing + shoe remain in hole.

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
0 - 63 (0 - 19.2m)	Casing Bouldery O.B		
63			
63 - 122 (19.2 - 37.2m)	Black, v.f.g., locally well laminated or bedded (45°±), highly contorted, minor hairline white silty bands, bedding and foliation appear parallel, well developed 3-5mm porphyroblasts present in areas with less silty banding, locally very graphitic knotted Phyllite. (Unit 4). Very siliceous Quartz/carbonate (q/c) veining with trace amounts of pyrite and/or pyrrhotite. White carbonate (not calcite) usually brecciated, sometimes contains angular frags. of phyllite. 63-70 No quartz 70-75 1-10 cm q/c vein @ 50°, 1-56cm brecciated q/c @ 30°, contains pale grey silty fragments 75-80 1-50cm q/c - continuation of above vein 80-99 Very little q/z veining, very graphitic 99-101 Qtz/carb vein (very broken, heavy graphite frags) @ 80° 101-105 No qtz veins, white silty banding. 105-110 3-2-3cm q/c veins @ 70-80° parallel to foliation, well laminated. 110-115 1-75cm mixed/brecciated q/c vein @ T=90, E=60° A few blebs of pyrrhotite 115-119 1-15cm q/c vein @ 30°, Very graphitic phyllite	63-66 38253 66-70 254 70-75 255 75-80 256 80-85 257 85-90 258 90-95 259 95-99 38260 99-101 261 101-105 262 105-110 263 110-115 264 115-119 38265	0.002

PROPERTY Armada Gold HOLE NO. 88-3 PAGE: 2 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
	119-122 1-40cm q/c breccia vein, angular phyllite frags, cream colour qtz (different than rest of qtz veining)	119-122 38266	
	122 Contact 30° V. sharp, very graphitic between qtz vein and L.S.	122-127 267	
		127-132 268	
		132-137 269	
		137-142 38270	
		142-147 271	
		147-151 272	
122-151 (37.2-46m)	Medium grey, well bedded (45°), v.f.g., white qtz/carb beds (veining), locally brecciated (looks like L.S. boudins in Trench B) Limestone - Slightly carbonaceous	151-156 273	0.014
		156-161 274	
		161-165 275	
		165-170 276	
		170-175 277	0.003
	151 Contact 60° sharp	175-180 278	
		180-185 279	
		185-190 38280	
151-295	Black, v.f.g., very siliceous, massive, well laminated, bedded (35-60), well foliated (35-60), well developed porphyro blasts (3-5m), locally rotated at rt∠s to foliation, typical Knotted phyllite (mod high schoen) Very little graphite (soft type)	190-195 281	
(89.9m)		195-200 282	
		200-205 283	
		205-210 284	
		210-215 285	
	151-190 Very little qtz veining. White hairline s/ts less common. A few hairline to 2mm pyrrhotite veins parallel to foliation/bedding + a few clots of pyrrhotite.	215-220 286	
		220-225 287	
		225-230 288	
		230-235 289	
	190-195 5-10cm q/c veins, tr. py + pyrrh. along a few fractures - parallel to foliation	235-240 38290	
		240-245 291	
		245-250 292	
	240-245 1-10cm q/c @ 50°, 1-20cm q/c @ 20° Tr py + pyrrh along fract - parallel to fol	250-255 293	
		255-260 294	
		260-265 295	
		265-270 296	
	245-250 Minor qtz vein in intensely folded section, i.e. in nose of fold.	270-275 297	
		275-280 298	0.002
		280-285 299	
	274-295 Highly contorted knotted phyllite, minor qtz veining, some cross cutting	285-290 38300	
		290-295 301	
	Contact 35° carbonaceous gouge (fault?)		

PROPERTY Armada Gold HOLE NO. 88-3 PAGE: 3 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
295 - 325 (89.9 - 99m)	Black, v.f.g., carbonaceous, siliceous, soft to mod hard, rarely porphyroblastic, locally well bedded (white beds) well foliated (30-35°) phyllite. Qtz/carb veining common 295-362 Very broken, carbonaceous, soft, - possible healed fault zone. 1- 20cm q/c vein, 1- 15 cm qtz/carb vein; Contacts variable and/or broken Both veins in section 295-300 320-325 1- 100cm q/c vein, Upper contact 60° Lower Contact 30° - brecciated 1-2% pyrrh. veins Heavy brecciated carb.	295-300 38302 300-305 303 305-310 304 310-315 305 315-320 306 320-325 307	0.007 0.003 0.055
	325 Contact 60± Sharp		
325 - 363 (99m - 110.6m)	Dark gray to med gray, v.f.g., thin bedded (30-70) to mod. massive, locally brecciated, white calcite ± qtz cement and/or veinlets, very hard, either siliceous or high silt content Limestone, locally mod. carbonaceous to graphitic Tr pyrrhotite and/or pyrite clots or veinlets common 330-335 1- 3cm py + pyrrh + carb/qtz vein @ 70° Calcite veins or breccia frags common in section 335-340 Course calcite ± qtz veining common	325-330 308 330-335 309 335-340 38310 340-345 311 345-350 312 350-355 313 355-360 314 360-363 315	
	363 Contact 70 V. sharp - conformable		
363 - 383.5 (110.6 - 116.9m)	Black, v.f.g., well laminated (bedded 30-70), mod well foliated (parallel to bedding) mod dull carbonaceous siliceous phyllite. No obvious porphyroblasts Some qtz/carb veining Tr clots of pyrrhotite and/or pyrite 368-373 1- 50cm q/c vein @ 50° Tr pyrrhotite 373-378 1- 20cm q/c vein @ 40°± brecciated, Tr pyrrh. 378 - 383.5 1- 15cm q/c vein @ 50° (opposed contacts - in Frag) Several 1mm pyrrh. veins - crosscutting	363-368 316 368-373 317 373-378 318 378-383.5 319	0.003 0.003 0.003

PROPERTY Armada Gold HOLE NO. 88-3 PAGE: 4 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
	Contact 50° Slightly brecciated with qtz cement	383.5-388 38320	
		388-394 321	
383.5 - 465 (116.9 - 141.7m)	Med. gray, v.f.g., thin bedded (30-60) bedding defined by white calcite ± qtz beds (hairline to 2mm), mod massive, locally brecciated (calcite/qtz cement) mod. qtz and/or calcite veined, mod carbonaceous to graphitic, mod siliceous limestone. Prob. has a high silt content	394-399 322	
		399-404 323	
		404-409 324	
		409-415 325	
		415-420 326	
		420-425 327	
		425-430 328	
		430-435 329	
	Tr py assoc. w/ qtz/carb veins, locally rusty with tr limonite. n.s. a few water courses	435-440 38330	
	Unit contains a few narrow (< 1m) beds of black phyllite - no porphyroblasts, conformable contacts. Phyllite section contain a higher percent pyrrhotite.	440-445 331	
		445-450 332	
		450-455 333	
		455-460 334	
		460-465 335	
	388-394 Blk phyllite, 1% py clots		
	Contact 70° Slightly brecciated / qtz/carb veining Tr pyrrhotite.		
465 - 543 (141.7 - 165.5m)	Black, v.f.g., well bedded / foliated (40-50°), beddins defined by hairline white silty beds, locally very contorted (may be partially soft sed deformation) very siliceous and hard, mod to high schoen graphitic, sparsely porphyroblastic phyllite. Locally, sections without any porphyroblasts.	465-470 336	0.004
		470-475 337	0.004
		475-480 338	
	Tr pyrrhotite and/or pyrrhotite clots parallel to foliation / bedding		
	Qtz/carb veining common		
	465-470 30% q/c veining, partially brecciated Tr pyrrhotite		
	470-475 1 - 40cm q/c vein @ 40°		
	475-480 1 - 30 cm q/c vein @ 30°		

PROPERTY Armada Gold HOLE NO. 88-3 PAGE: 5 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
480-485	1- 20cm q/c vein @ 50°	480-485 38339	0.005
		485-490 340	0.003
490-495	1- 7cm q/c (+ 5% py cross veining) @ 50°	490-495 341	
	1- 10cm q/c vein @ 80° ragged contact	495-500 342	0.018
		500-505 343	
495-500	1- 50cm q/c vein @ 50° includes 1-2cm bands of phyllite	505-510 344	
		510-515 345	
		515-520 346	
520-525	1- 40cm q/c vein @ 40° 1% fine py on fractures	520-525 347	
	3- 10cm q/c veins @ 30-50°, little py	525-530 348	0.005
		530-535 349	
525-530	1- 25cm q/c vein - breccia contacts, No obvious py	535-540 38350	
		540-543 38351	
530-535	1- 10cm q/c vein @ 50°		
	1- 100cm mixed q/c-phyllite vein breccia zone, Tr py assoc w/ phyllite section - bedding type. Some of the quartz appears to be bull quartz		
535-540	Entire zone qtz/carb/phyllite a breccia vein - same as above.		
540-543	Same as above		
	Contact - brecciated qtz/carb vein - irregular		
	Contact zone 530-543 See above.	543-545 352	
		545-550 353	
543-555 (165.5-169.1m) E.O.H. 555	Black, v.f.g., siliceous, mod. soft, thinly bedded (50°) bedding defined by tightly folded 1-3cm white silty beds, very well foliated (50°) but foliation cuts the nose of the fine folds, a cleavage developed parallel to foliation. carbonaceous phyllite - May be siliceous member of Unit 3?? No porphyro blasts, Very little qtz veining Tr - 1% irregular clots of pyrrhotite parallel to foliation.	550-555 38354	0.002

DIAMOND DRILL LOG

PROPERTY Armada Gold TOWNSHIP

DATE Dec. 3, 1988 PAGE: 1 OF 5

HOLE NO. D.D.H-88-4 DIP -60 AZMIUTH 035 LOGGED BY D. A. Howard

CORE SIZE HQ TOTAL FOOTAGE 577 DIP TEST: YES/NO

DIP FOOTAGE AND DEGREE 64.5° @ 577'

CASING LEFT IN HOLE: YES/NO CASING FOOTAGE 70'

DRILL TIME: START Dec 2, 1988 FINISH Dec 6, 1988 MECHANICAL TIME

MISCELLANEOUS PROBLEMS Casing slipped down hole - had to be run from 54 to 70'

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
0-54	Overburden; Casing to because of soft punk surface rock		
54-64	No recovery except O.B. cobbles		
64-214	Black, v.f.g., locally well laminated or bedded (20-30), mod contorted, minor hairline white silty beds define bedding, well foliated parallel to bedding, siliceous, carbonaceous to graphitic (low schoen at least near surface), porphyroblastic phyllite (knotted phyllite - Unit 4). Porphyroblasts aligned parallel to foliation, some rotation. Very little qtz veining. Tr py/pyrrhotite assoc. with the minor qtz veinings, otherwise very little sulphide. Top of sect (→76) is very soft (Weathered) No limonite	64-70 38355 70-75 356 75-80 357 80-85 358 85-90 359 90-95 38360 95-100 361 100-105 362 105-110 363 110-115 364 115-120 365 120-125 366 125-130 367 130-135 368 135-140 369 140-145 38370 145-150 371 150-155 372 155-160 373 160-165 374 165-170 375 170-175 376 175-180 377 180-185 378 185-190 379 190-195 38380	

70-75 2- 2-3cm qtz veins - broken up, Tr py/pyrrh.
105 - Foliation 40°
117-128 Very carbonaceous, soft + punky Fault ??
145-148 " " " " "
153 Foliation 25° Porphyroblasts rotated into foliation
Lost core 2' between 117 + 124
183-214 Very carbonaceous, soft + punky, slickensided graphite

PROPERTY Arhada Gold HOLE NO. 88-4 PAGE: 2 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
		195-200 38381	
		200-205 382	
		205-210 383	
		210-214 384	
	214 Contact 60° sharp Minor qtz/breccia in phyllite	214-219 385	
		219-224 386	
214- 268	Med gray, v.f.g. locally well bedded, strongly open folded (bedding ranges from 40° to 0°) locally slightly brecciated (qtz + calcite filling) locally very graphitic, sulphides not obvious, Limestone	224-229 387	
		229-234 388	
		234-239 389	
	249-254 Very carbonaceous section, heavy calcite veining	239-244 38390	
		244-249 391	
		249-254 392	
		254-259 393	
		259-264 394	
		264-268 395	
	268 Contact 80 Very graphitic - almost a gouge - typical of L.S. boudin contact at surface	268-272 396	
		272-277 397	
268- 299	Black, v.f.g., well laminated / bedded / foliated (50-70°) highly deformed, kink banded, bedding defined by hairline white silty beds, siliceous, graphitic, locally very soft and punky, porphyroblastic (1-3mm knots) (not always present) phyllite (Unit 4) A few narrow qtz/carb veins - mostly fragments in very graphitic material	277-279 398	
		279-283 399	
		283-288 38400	
		288-293 401	
		293-296 402	
		296-299 403	
	268- 279 Very graphitic, punky, minor qtz/carb veining no hairline beds present		
	279- 296 More competent with good bedding features, no qtz		
	296- 299 Very graphitic, no qtz, soft. upper contact 40°		
	299 Contact 10° sharp, soft & graphitic	299-304 404	
		304-309 405	
299- 329	Med gray, v.f.g. well bedded (30-35°), locally slightly brecciated Limestone (same as 214-268, but less graphitic)	309-314 406	
		314-319 407	
		319-324 408	
		324-329 409	

PROPERTY Armada Gold HOLE NO. 88-4 PAGE: 3 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
	329 Contact Brecciated over 25 cm in L.S., qtz/carb + Minor pale green chlorite (?) 0.5–1% dis py in qtz. Overall contact appear to be about 20°	329-334 38410	
		334-339 411	
		339-344 412	
		344-347 413	0.044
329-421	Black, v.f.g. thinly laminated/bedded, hairline white silty bed, bedding/foliation ~50°, siliceous, graphitic phyllite. (No knotts) Very little distortion of bedding	347-350 414	
		350-352 415	0.002
		352-357 416	
		357-362 417	
	334-347 Massive white qtz vein, No obvious Fe carb present, lower contact ±60°cm brecciated, phyllite frags with dusting of v.f.g. dis py +pyrrh. on fractures. Remainder of vein contains very little py. Upper contact ~40°-sharp; lower contact brecciated	362-367 418	
		367-372 419	
		372-377 38420	
		377-382 421	0.025
		382-387 422	0.014
		387-392 423	0.002
		392-397 424	
	347- Phyllite more carbonaceous, less well defined bedding (white beds) more highly contorted, only a few qtz only veins, Tr pyrrhotite hairline veins locally. Vein very crumbly (multible fractures) Foliation/Beddings highly variable (0-80°)	397-402 425	
		402-407 426	
		407-412 427	
		412-417 428	
		417-421 429	
	350-351 1-20cm qtz vein, contain a couple of 1cm clots of pyrrhotite.		
	419- 1-5cm qtz/carb vein @ 50°		
	Contact - Conformable tight fold		
		421-426 38430	
421-438	Mod to dark gray, v.f.g., well bedded (0-80°) locally contorted, slightly brecciated (qtz/calcite cement) limestone. Mod to highly carbonaceous, Hard + silty.	426-431 431	
		431-435 432	
		435-438 433	
	438 Contact 70° sharp, conformable		

PROPERTY Armada Gold HOLE NO. 88-4 PAGE: 4 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
438 - 517	Black, v.f.g., thinly laminated/bedded, hairline - 1cm white silty beds, locally very contorted, (0-60), foliation usually parallel, most commonly 40-60°, siliceous, hard, carbonaceous to graphitic phyllite. No porphyroblasts. Rare traces of pyrite Minor qtz veining, commonly brecciated, normally contain carb fragments, occasional pyrite. 438-443 1-5cm q/c vein @ 40° Tr py 1-20cm q/c vein @ 60° No py 448-453 2-5cm q/c veins @ 50° No py 453-458 1-5cm q/c vein frag No py 463-468 1-30cm q/c vein @ 50° Brecciated with few 0.5cm ly cubes upper contact in both qtz and phy. 1-25cm q/c vein - contacts broken. 468-473 Fault zone 469-473 - lost approx 2' of core. Intense shattering, no gouge, Probably a late stage fault. 473-478 Very broken and blocky 1-10cm q/c frag - No py. 483- Intensely shattered/blocky, some v.f.g. grey Limestone seritivers, a few qtz/carb frags, very graphitic. Probably part of a late stage Fault zone - Some core loss 493-500 +50% core loss, some qtz fragments 500-506.5 75% core loss No qtz 506.5-510 10% core loss 1-30cm q/c vein No py 510-515 10% core loss 1-25-30cm q/c vein No py 515-517 1-30cm q/c vein No py Contact, V. sharp, graphitic 40° - Limestone very brecciated	438-443 38434 443-448 435 448-453 436 453-458 437 458-463 438 463-468 439 468-473 38440 473-478 441 478-483 442 483-488 443 488-493 444 493-500 445 500-506.5 446 506.5-510 447 510-515 448. 515-517 449	0.007 0.010 0.002 0.007

PROPERTY Armada Gold HOLE NO. 88-4 PAGE: 5 OF 5

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
517 - 577	Med. to dark gray, v.f.g., locally well bedded (60-70°), mostly massive, locally well brecciated, qtz/carb cement, carbonaceous limestone. Section from 517 - 562 contains a few blk phyllite interbed. (20 cm to 2m). Phyllite sections commonly contains narrow qtz/carb veins ± tr pyrite.	517-523 38450 523-527 451 527-532 452 532-537 453 537-542 454 542-547 455 547-552 456 552-557 457 557-562 458 562-567 459 567-572 38460 572-577 461	
	517-523 1-50cm qtz/carb vein @ 40° No py 523-527 20% core loss, 20-30 cm q/c vein frags 552-562 Probable fault zone - intensely shattered. 557-562 - 15% core loss		
	562-577 Massive well bedded med. gray limestone not broken.		
	E. O. H. 577'		

DIAMOND DRILL LOG

PROPERTY Armada Gold TOWNSHIP _____

DATE Dec. 8, 1988 PAGE: 1 OF 6

HOLE NO. D.D.H-88-5 DIP -50° AZMIUTH 035 LOGGED BY D.A. Howard

CORE SIZE HQ TOTAL FOOTAGE 601 DIP TEST: YES/NO

DIP FOOTAGE AND DEGREE 49° @ 601'

CASING LEFT IN HOLE: YES/NO CASING FOOTAGE 22' → 30' Left in hole

DRILL TIME: START Dec. 7, 1988 FINISH Dec 11, 1988 MECHANICAL TIME _____

MISCELLANEOUS PROBLEMS Setup a little soft on back end

FOOTAGE	DESCRIPTION	SAMPLE NUMBER		ASSAY RESULTS
0-22 (0-6.7m)	Overburden - Few large boulders			
22-92 (6.7-28m)	Black, v.f.g., well laminated, bedding/foliation parallel (40-60°), locally brecciated adjacent to qtz veins, siliceous, mod. graphitic prophyroblastic phyllite (Unit 4) Prophyroblasts 2-5mm, parallel to bedding, minor rotation. Locally bedding well defined by hairline white silty beds which locally are highly deformed. Tr py veinlets occur at contacts between quartz vein and phyllite. Rare veinlets of pyrrhotite in phyllite, parallel to fol/bedding	22-25	38462	
		25-30	463	
		30-36	464	
		36-41	465	
		41-45	466	
		45-50	467	
		50-53	468	
		53-58	469	
		58-63	38470	
		63-68	471	
		68-73	472	
		73-78	473	0.017
		78-85	474	0.005
		85-88	475	
		88-92	476	
	22-36 Mod. weathered - soft, broken, tr limonite			
	30-36 60% core loss			
	36-41 1-15 cm q/c vein @ 40° No. py			
	1-10 cm " " " " No py			
	41-45 1-80 cm q/c vein @ 40° Tr py; Intensely brecciate, phy. frags.			
	45-53 17 1-5mm qtz veins // to foliation			
	53-58 Brecciated qtz vein, Tr py/pyrrh on margins of phyllite frags. Contacts ± 40° Well knotted above and below			
	58-68 Only minor qtz veining			
	68-73 1-10 cm q/c vein @ 70° No py, very minor carb.			
	73-78 1-70 cm q/c vein @ 40° Tr py in brecciated section			
	78-85 1-1.8 metre q/c vein @ ± 30° Tr py, several chloritic fragments			
	85-92 Very carbonaceous, soft, crushed, ? gouge, but contact is not a fault			
92	Contact 40° V. sharp, Conformable			

PROPERTY Armada Gold HOLE NO. 88-5 PAGE: 2 OF 6

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
92 - 104.5	Med. gray, v.f.g. well bedded (40°), locally mod carbonaceous, locally slightly brecciated (qtz/calcite cement), locally hairline calcite development parallel to beddings, mod. silty limestone	92-97 38477 97-102 478 102-104.5 479	0.003
	Contact 55° sharp, graphitic		
104.5 - 264	Black, v.f.g.; locally well laminated/bedded (60°±) near upper contact, away from upper contact beddings less well defined, Well foliated (30°), near contact foliation parallel to bedding, mod to intensely graphitic, siliceous, porphyroblastic phyllite (Unit 4)	104.5-110 38480 110-115 481 115-120 482 120-125 483 125-130 484 130-135 485 135-140 486 140-145 487 145-150 488 150-155 489 155-160 38490 160-165 491 165-170 492 170-175 493 175-180 494 180-185 495 185-190 496 190-195 497 195-200 498 200-205 499 205-210 38500 210-215 501 215-220 502 220-225 503 225-230 504 230-235 505 235-240 506 240-245 507 245-250 508 250-255 509 255-260 38510	
	122→ Porphyroblasts are dissolved out, i.e. vuggy Sulphides not common. Only minor qtz veining down to ...		
	104.5 - 110 2 - 15cm q/c veins @ 30° Tr pyrrh veining		
	110 - 115 No qtz		
	115 - 120 1 - 2cm q/c vein - broken		
	125 - 130 1 - 1.2metre q/c vein, tr py, a few graphitic inclusions		
	130 - 134 75% core loss includes some qtz vein material		
	145 - 150 2 - 10 cm q/c veins @ 40° tr py		
	150→ Very massive knotted phyllite, locally well defined bedding, but very contorted, foliation more or less parallel		
	230 - 235 Vein zone at 40°. 50% qtz carb with minor py and pyrrh. 50% pale greenish porphyroblastic (look. bleached) chloritic phyllite. Def. an altered zone. Contains above average content of pyrrh See sample Qtz vein material well brecciated, Contains silty fragments in addition to phyllite & carb.		
	263 - 264 Soft punky zone - Possible fault		

PROPERTY Armada Gold HOLE NO. 88-5 PAGE: 3 OF 6

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
	Contact ? Possible fault	260-265 38511	
		265-270 512	
264- 450	Same basic rock type as above but with much fewer porphyroblasts (less than 1% and all very fine grained 1-2mm) Very minor qtz veining, very massive and hard, Foliation (40-70) locally X-cuts beddings (transposes), bedding locally very variable (0-90°) A few dark gray silty beds, conformable A few thin pyrrhotite vein parallel to foliation and/or bedding	270-275 513	
		275-280 514	
		280-285 515	
		285-287 516	
		287-292 517	
		292-297 518	
		297-302 519	
	275-280 10% small q/c veins at various ∠s Tr pyrrh chls in qtz	302-307 38520	
		307-312 521	
		312-317 522	
	280-285 Minor q/c veining	317-322 523	
		322-327 524	
	285-287 1-30cm q/c @ 30°, plus several smaller (1-2cm) qtz veins, 1- 4mm pyrrhotite vein @ 30°, Entire section mod. brecciated.	327-332 525	
		332-337 526	
		337-342 527	
		342-347 528	
	287- Very massive, no qtz veins	347-352 529	
		352-357 38530	
	350-425 Beddings defined by banding silty beds is parallel ± to core axis, foliation 40-70° to core axis	357-362 531	
		362-367 532	
		367-372 533	
	387-436 Not split or sampled	372-377 534	
		377-382 535	
		382-387 536	
	Contact - Gradational		
450- 464	Same rock type except for sharp increase in percentage and size (3-5mm) of porphyroblasts. Foliation / bedding 40°	436-441 537	
		441-446 538	
		446-451 539	
		451-454 38540	
	451-454 1-60cm q/c vein @ 40°, brecciated, minor chl on fractures, tr pyrrhotite	454-459 541	
		459-464 542	
	454-459- 1- 25cm q/c vein @ 60° Tr pyrrhotite		
	Contact sharp (40-45°) qtz/carb vein at contact		

PROPERTY Armada Gold HOLE NO. 88-5 PAGE: 4 OF 6

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
464 - 549	Heavy quartz veining hosted in Black, v.f.g., siliceous, very carbonaceous to graphitic, poorly bedded, well foliated (high, variable) slickensided phyllite. Porphyroblasts rare, tr pyrrhotite. Qtz veining well brecciated locally high carb content, sulphide content variable, local tr chl alt along a few fractures (pale green cast to some of the quartz). Mainly pyrite mineralization over pyrrhotite mineralization further up the hole.	464-469 38543 469-474 544 474-478 545 478-484 546 484-489 547 489-494 548 494-499 549 499-504 38550	
	464-469 70% q/c vein, well brecciated Tr py		
	469-474 1- 50cm q/c breccia vein @ 60° 1% py/pyrrhotite bleby veins, high carb content 1- 60cm q/c breccia vein @ 60° 0.5% dis py/pyrrh. Should run?		
	474-478 1- 70cm q/c vein @ 40°, 0.5% dis py blebs/clots		
	478-484 1- 2m q/c vein @ 30°. some brecciation, phyllite and/or carb frags, tr chl alt on fractures, Tr pyrite.		
	484-489 1- 50cm q/c vein @ 30°, Well brecciated chl. alt. 1% py chatter veining, locally vuggy (box works) plus scattered q/c sections in phyllite intervals also pale green angular silty fragments		
	489-494 1- 80cm q/c breccia vein zone, 60% phyllite, more flow type than breccia Tr dis py.		
	494-499 1- 90cm q/c, slightly brecciated, @ 40° Some chl alt of fragments. Tr dis py in qtz (crystalline py)		
	499-504 40% irregular q/c veining, locally brecciated tr chl alt, Tr py Phyllite very graphitic no porphyroblasts.		

PROPERTY Armada Gold HOLE NO. 88-5 PAGE: 5 OF 6

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
504 - 509	3 - 1 - 3 cm q/c veins @ 30-40°, Phyllite very graphitic. Tr sulph. dss in q/c veins	504-509 38551	
509-513	1 - 80 cm q/c vein/breccia zone, Tr - 0.5% pyrrhotite cross veinings, Tr chl. alt., heavy carb.	509-513 552	
513-517	2 - 5 cm q/c veins @ 40-60°, 0.5%, py/pyrrh bleby veins in q/c., Phyllite very graphitic.	513-517 553	
517-522	1 - 25 cm q/c vein @ 50°, slightly brecciated, Tr pyrrh. 1 - 70 cm q/c vein @ 40°, slightly brecciated, Tr pyrrh., Both low in carb frags.	517-522 554	0.003
522-527	1 - 80 cm q/c vein @ 70°, V. heavy carb, Tr chl, Tr py/pyrrh hairline veins, mod to intense brecciation.	522-527 555	
527-529	1 - 60 cm white qtz vein, only minor carb new contacts (70°) Tr py new contacts in qtz assoc w/ phyllite fragments.	527-529 556	
529-534	No qtz veinings, phyllite very graphitic	529-534 557	
534-539	1 m q/c - breccia vein @ 40° Top 50 cm of vein not as brecciated as lower half Tr chl alt., 0.5% dss py/pyrrh assoc with more intense brecciated section. Phyllite sections/frags very graphitic	534-539 558	
539-542	1 - 40 cm q/c vein @ 40° + broken up smaller veins. Tr chl on fract., Tr py/pyrrh., heavy graphite.	539-542 559	
542-547	Intensely contorted/brecciated zone containing ± 50% 1 - 5 cm broken qtz/carb veins Tr py/pyrrh in more brecciated sections Carb cont variable. Angular phyllite fragments very graphitic.	542-547 38560	

PROPERTY Armada Gold HOLE NO. 88-5 PAGE: 6 OF 6

FOOTAGE	DESCRIPTION	SAMPLE NUMBER	ASSAY RESULTS
	547-549 Nb qtz - Very graphitic phyllite	547-549 38561	
	Contact- sharp (60°) graphitic, fine xtln py on slickensided contact	549-554 562 554-559 563 559-564 564 564-569 565	
549-594.5	Med. to dark gray, v.f.g., locally well bedded (50-60°) locally brecciated (qtz + calcite cement) silty limestone - some sections appear to be more a siltstone than a limestone. Tr dis py (rare)	569-574 566 574-579 567 579-584 568 584-589 569 589-594.5 38570	
594.5-601	Contact 60° sharp	594.5-598 571	
E.O.H. 601	594.5±-601 Blk, v.f.g., well bedded (60-70°) defined by hairline highly contorted silty beds, siliceous phyllite. Nb porphyroblasts A few narrow q/c veins parallel to bedding/foliation. Several 2cm x 0.5cm py/pyrrhotite clot parallel to bedding.	598-601 572	

LEGEND

MIDDLE - LATE TRIASSIC

QUESNEL RIVER GROUP

TRa (Black Phyllites)

TRa_5 Medium to dark gray to blue black, siliceous, very fine grained, locally very graphitic and/or pyritic, locally very well laminated (alternating light narrow (1-2 mm) silty beds and dark phyllite), locally very tightly foliated phyllite with locally interbedded gray micaceous siltstone.

TRa_4 Medium gray to silver gray, high sheen, very fine grained, well laminated, tightly folded and foliated, locally pyritic, siliceous, porphyroblastic (knotted phyllite). Abundant quartz veining (boudins) locally. Contains well bedded, very fine grained, tightly folded, gray limestone beds near the base to middle part of the unit.

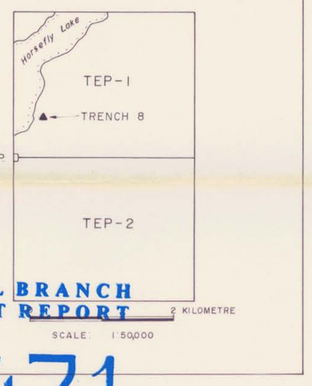
TRa_3 Medium gray, dull, very fine grained, locally laminated, moderately foliated, carbonaceous, calcareous phyllite. Locally siliceous and very micaceous in upper part of section. Top of unit defined by a black, very carbonaceous, calcareous low sheen phyllite. Bedding defined by alignment of pyrite blebs and/or thin silty layers. Top portion of unit locally very pyritic.

SYMBOLS

- Contact (observed, inferred)
- Fault
- Bedding
- Foliation
- Survey Stations
- Quartz Veins

Map elevation defined as 0

INSERT LOCATION MAP



PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — DAVID A. HOWARD

ARMADA GOLD AND MINERALS LTD.

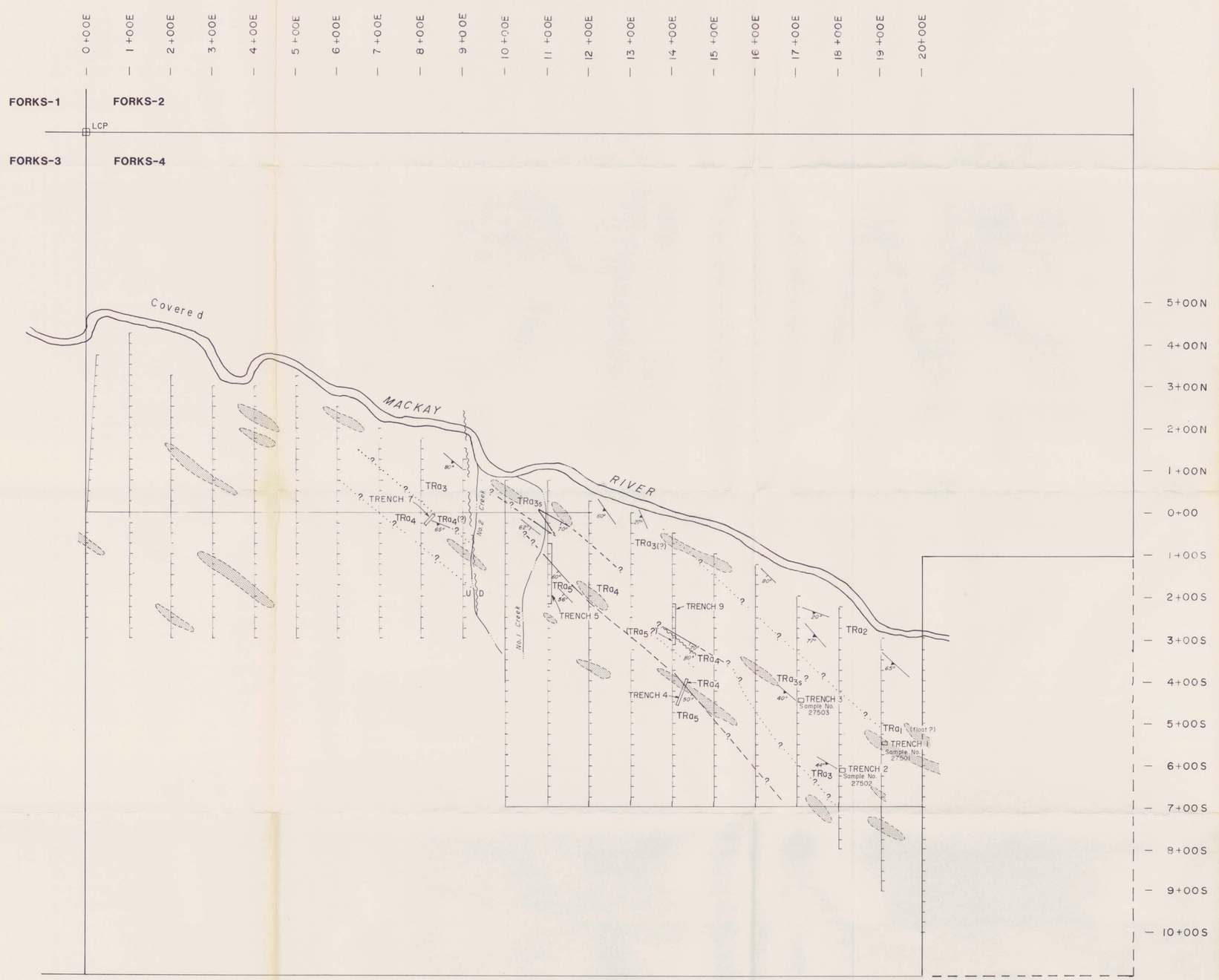
GEOLOGY AND DRILL HOLE LOCATION MAP TRENCH 8 AREA TEP-1 MINERAL CLAIM

Cariboo Mining Division, MacKay River Area, British Columbia, NTS 93A/7W

METRES 0 25 50

GEOLOGY BY: D.A. Howard, M.Sc., P.Eng.	DATE: October, 1988
SCALE: 1:500	FIGURE No.: 12

D.D.H. GEOMANAGEMENT LTD.



LEGEND

Soil geochemical Gold values in ppb

Contour greater than 50 ppb Gold (1987 analysis)

Sample no. 2750I - See Appendix A for analysis

For Geology Legend See Figure 11

SYMBOLS

Contact (observed, covered, inferred)

Fault

Bedding

Foliation

Trench

NOTE: For detailed geology and sample locations of Trenches 4, 5, 7 & 9, See Figures 14,15,16,17&18.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
DAVID A. HOWARD

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,471

ARMADA GOLD AND MINERALS LTD.

GEOLOGY AND TRENCH LOCATION MAP OF GRID 1

FORKS 4 MINERAL CLAIM

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93A/7W

METRES
0 100 200 300 400 500 Metres

GEOLOGY BY: D.A.Howard, M.Sc.,P.Eng.	DATE: October, 1988
SCALE: 1 : 5000	FIGURE NO. 13

DDH GEOMANAGEMENT LTD.

LEGEND

MIDDLE - LATE TRIASSIC

Quesnel River Group

TRa (Black Phyllites)

TRa5 Medium to dark gray to blue black, siliceous, very fine grained, locally very graphitic and/or pyritic, locally very well laminated (alternating light narrow (1-2mm) silty beds and dark phyllite), locally very tightly foliated phyllite with locally interbedded gray micaceous siltstone.

TRa4 Medium gray to silver gray, high sheen, very fine grained, well laminated, tightly folded and foliated, locally pyritic, siliceous, porphyroblastic (knotted) phyllite. Abundant quartz veining (boudins) locally. Contains a few narrow (1 metre) well bedded, very fine grained, tightly folded, gray limestone beds near the base to the middle part of the unit.

TRa3s Medium to silver gray, moderate sheen, very fine grained, locally well laminated, tightly folded and foliated siliceous phyllite. May in part be base of overlying unit TRa4.

TRa3c Medium gray, dull, very fine grained, locally laminated, moderately foliated, carbonaceous, calcareous phyllite. May also occur as narrow bands in overlying siliceous section.

TRa2 Dark gray to silver gray, moderate to high sheen, very fine grained, siliceous, locally pyritic, locally poorly laminated, well developed cleavage (foliation), locally graphitic phyllite. Bedding difficult to define.

TRa1 Light tan to rust colour weathering , light gray, very fine grained, banded, well foliated muscovite-quartz phyllite or micaceous quartzite. Banding defined by varying muscovite content in the various bands.

SYMBOLS

CONTACT (Observed,inferred)

FAULT

70° BEDDING

65° FOLIATION

Sample No. 27690 SAMPLE LOCATION -(See Appendix A for values.)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,471

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — DAVID A. HOWARD

ARMADA GOLD AND MINERALS LTD.

GEOLOGY AND SAMPLE LOCATION MAP

AR 1 - 2 MINERAL CLAIMS

CARIBOO MINING DIVISION, MACKAY RIVER AREA,
BRITISH COLUMBIA, NTS 93A/7W

METRES
0 100 200 300 400 500

GEOLOGY BY: D.A. HOWARD, M.Sc., P. Eng.	DATE: OCTOBER, 1988
SCALE: 1 : 5000	FIGURE No. 11

DDH GEOMANAGEMENT LTD.

LEGEND

MIDDLE - LATE TRIASSIC

QUESNEL RIVER GROUP

TRa (Black Phyllites)

TRa_5 Medium to dark gray to blue black, siliceous, very fine grained, locally very graphitic and/or pyritic, locally very well laminated (alternating light narrow (1-2 mm) silty beds and dark phyllite), locally very tightly foliated phyllite with locally interbedded gray micaceous siltstone.

TRa_4 Medium gray to silver gray, high sheen, very fine grained, well laminated, tightly folded and foliated, locally pyritic, siliceous, porphyroblastic (knotted phyllite). Abundant quartz veining (boudins) locally. Contains well bedded, very fine grained, tightly folded, gray limestone beds near the base to middle part of the unit.

TRa_3 Medium gray, dull, very fine grained, locally laminated, moderately foliated, carbonaceous, calcareous phyllite. Locally siliceous and very micaceous in upper part of section. Top of unit defined by a black, very carbonaceous, calcareous low sheen phyllite. Bedding defined by alignment of pyrite blebs and/or thin silty layers. Top portion of unit locally very pyritic.

SYMBOLS

- Contact (observed, inferred)
- Fault
- 85° Bedding
- 80° Foliation
- Survey Stations
- 27600 Chip/Channel Sample Location
- (27601) Chip/Channel Sample of Quartz Veins Within Interval.

INSERT LOCATION MAP

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
DAVID A. HOWARD

ARMADA GOLD AND MINERALS LTD.

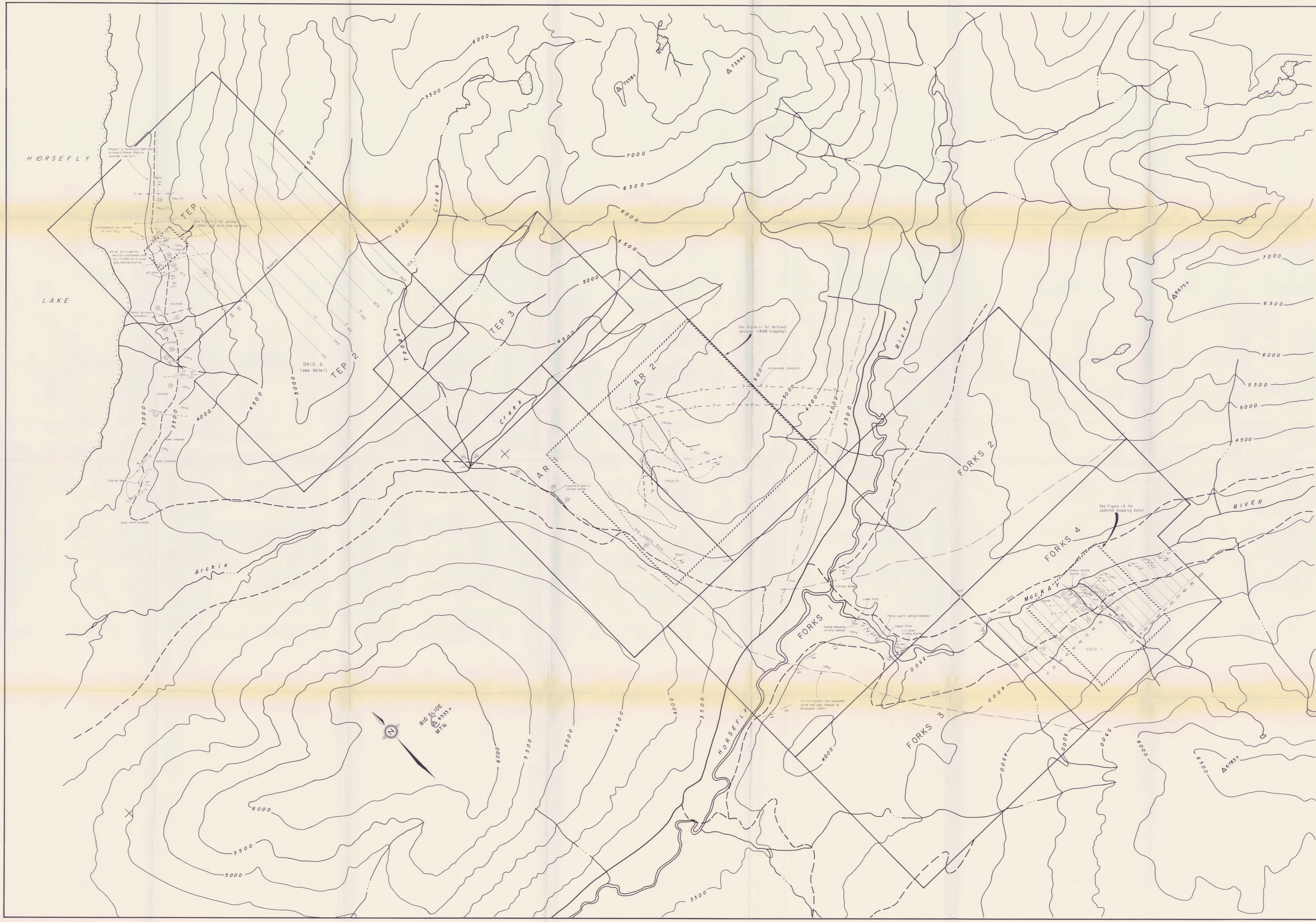
SIMPLIFIELD GEOLOGY & SAMPLE LOCATION MAP OF TRENCH 8 TEP-1 MINERAL CLAIM

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93A/7W

METRES
0 25 50

GEOLOGY BY: D.A. Howard, M.Sc., P.Eng.	DATE: October, 1988
SCALE: 1:500	FIGURE No.: 20

D.D.H. GEOMANAGEMENT LTD.



LEGEND

In. (Intrusive rocks, age unknown)

Dark gray to greenish gray, fine grained, inequigranular hornblende/augite, locally porphyritic diorite. Commonly contains disseminated medium grained pyrrhotite.

MIDDLE - LATE TRIASSIC

Quesnel River Group

TRb (Tuff, Meta-siltstone, Slates)
Gray to pale green very fine grained siliceous tuffs interbedded with dull dark gray very fine grained siliceous blocky meta-siltstone and/or slates.

TRa (Black Phyllites)

TRa_6 Medium gray to black, very fine grained, siliceous, blocky, poorly foliated, rusty weathering phyllite. Horsefly Lake section mainly gray to pale green very fine grained siliceous tuffs.

TRa_5 Medium to dark gray to blue black, siliceous, very fine grained, locally very graphitic and/or pyritic, locally very well laminated (alternating light narrow (1-2 mm) silty beds and dark phyllite), locally very tightly foliated phyllite with locally interbedded gray micaceous siltstone.

TRa_4 Medium gray to silver gray, high sheen, very fine grained, well laminated, tightly folded and foliated, locally pyritic, siliceous, porphyroblastic (knotted phyllite. Abundant quartz veining (boudins) locally. Contains a few narrow (1 metre) well bedded, very fine grained, tightly folded, gray limestone beds near the base to middle part of the unit.

TRa_3 Medium gray, dull, very fine grained, locally laminated, moderately foliated, carbonaceous, calcareous phyllite. Locally siliceous and very micaceous in upper part of section. Top of unit defined by a black, very carbonaceous, calcareous low sheen phyllite. Bedding defined by alignment of pyrite blebs and/or thin silty layers. Top portion of unit locally very pyritic.

TRa_2 Dark gray to silver gray, moderate to high sheen, very fine grained, siliceous, locally pyritic, locally poorly laminated, well developed cleavage (foliation), locally graphitic phyllite. Bedding difficult to define.

TRa_1 Light tan to rust colour weathering, fine to medium grained, banded, locally folded muscovite - quartz schist or micaceous quartzite. Banding defined by varying muscovite content in the various bands.

MISSISSIPPIAN - EARLY PERMIAN (?)

Pca (Crooked Amphibolite)
Pale green to gray green, very fine to fine grained, banded, tightly folded biotite-chlorite-quartz schist. Banding consists of 2 mm to 10 mm quartzite or quartz/ carbonate bands alternating with variable width schist layers.

HADRYNIAN AND YOUNGER

SN (?) (Snowshoe Group)
Light gray to tan, fine to coarse grained, well foliated, quartz-muscovite (biotite) schist containing flattened garnets.

SYMBOLS

- Contact (Observed, inferred)
- Fault
- Thrust Fault
- 25° Bedding
- 70° Foliation
- ② Silt Sample Location

SAMPLE NO.	Au ppb -20 Mesh	Au ppb -80 Mesh
1	1	
2	1	
3	1	
4	1	
5	23	
6	1	2470
7	102	98
8	2	2820
9	4	
10	1	
11	1	
12	17	
13	1	
14	1	
15	1	
16	1	
17	1	
18	2	
19	2	
20	1	
21	1	
22	1	
23	2	
24	1	
25	1	
26	2	
27	1	
28	1	
29	1	
30	1	

NOTE: Soil sample value for Grid 2 shown when above 5 ppb Gold.

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Geology, Stream Geochemical Map of the Forks 1 - 4, AR 1 - 2, Tep 1 - 3 Mineral Claims

Cariboo Mining Division, MacKay River Area,
British Columbia, NTS 93A 7E & W

SCALE: 1:10,000

0 500 1000 Metres

Geology by: D.A. Howard, M. Sc., P. Eng.	Date: Feb., 1988
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