

| | | | |
|---------|-------------------|---|--|
| MAP NO. | ASSESSMENT REPORT | X | DOCUMENT NO.: 092160 |
| 105 B 4 | PROSPECTUS | | MINING DISTRICT: Watson Lake |
| | CONFIDENTIAL | X | TYPE OF WORK: Geological, Geochemical, |
| | OPEN FILE | | Diamond Drilling |

REPORT FILED UNDER: A.M.P. Exploration & Mining Co.Ltd.

DATE PERFORMED: August & October, 1986 DATE FILED: March 30, 1988

| | |
|---------------------------|-----------|
| LOCATION: LAT.: 60° 01' N | AREA: |
| LONG.: 130° 36' W | VALUE \$: |

CLAIM NAME & NO.: BARB 1-24, 29-30, 1-6 FR., 100-103 FR. Y72102-17, YA21405-12, YA68731-32, YA68725-30, YA55782-85; LOG 20, 22, 24, 26, 45, 53, 55, 90, 92, 133 YA11229, 231, 233, 235, 378, 386, 388, YA11423, 425, 466

WORK DONE BY: D.C.Miller

WORK DONE FOR: A.M.P. Exporation & Mining CO. Ltd.

| | | |
|------------------------------|---|--|
| <u>DATE TO GOOD STANDING</u> | ; | REMARKS: # 29 LOGJAM, EIP Report Underground rehabilitation, |
| _____ | ; | minor drifting, diamond drilling, remapping of workings, soil & |
| _____ | ; | rock sampling and surface mapping was done. Probable reserves |
| _____ | ; | were calculated at 70 207 tonnes grading 3.02 g/t Au and 392 g/t |
| _____ | ; | Ag. |

DESIGNATION NO. ELP 86 - 010

GEOLOGICAL, GEOCHEMICAL, DIAMOND DRILLING
AND UNDERGROUND EXCAVATION REPORT

ON THE

BARB AND LOG CLAIMS
LOGJAM SILVER GOLD PROPERTY

CLAIM SHEET NO. 105B/4

LATITUDE 60 DEGREES 01 MINUTES NORTH
LONGITUDE 131 DEGREES 36 MINUTES WEST

WATSON LAKE MINING DIVISION, YUKON

FOR

A. M. P. EXPLORATIONS & MINING CO. LTD.

COVERING WORK DONE DURING
AUGUST TO OCTOBER 1986

BY

D. C. MILLER, P. ENG.

092160

DECEMBER 3, 1986

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SUMMARY AND CONCLUSIONS

The Logjam property was discovered in 1944 and since then has received sporadic exploration. Northeasterly striking quartz sulphide fault veins contain gold and silver mineralization associated with galena sphalerite, pyrrhotite, arsenopyrite, pyrite and minor chalcopyrite. Minor amounts of bismuth, antimony and tungsten mineralization are also present. The veins dip steeply northwest or southeast and range in width from a few centimeters to over a metre. They are exposed on a steep rocky northeast facing slope of a prominent northwest trending ridge over a vertical interval of 270 m and have been developed by 2 adit levels, 5150 and 5600, which are the approximate elevations above sea level. Host rocks for the veins are metasediments and diorite. To date, the best mineralization occurs where the veins are in diorite host rocks. The most effective work at the property was done in 1966 - 67 when much of the better grade mineralization was exposed by drifting on the 5150 and 5600 levels in diorite. The better grade sections exposed on these levels average 0.13 oz/t gold, 15.0 oz/t silver, 3.03% lead and 3.33% zinc (weighted by length and width) over an average weighted width of 0.84 m. In a recent ore reserve calculation by R. W. Phendler, P. Eng., (1984) lower grade sections have been included and probable ore reserves were estimated at 77,320 tons averaging 0.088 oz/t gold and 11.44 oz/t silver. Although the best potential for higher grade mineralization lies within the diorite, large areas within the favourable diorite are unexplored. Past as well as recent surface exploration indicates surface mineralization extends a few hundred metres southwest of the

present workings.

Recent drifting on the No. 4 vein on 5150 level exposed low grade mineralization, however, the best potential for this vein is in the diorite which lies some 20 to 40 metres ahead of the drift face. Furthermore, when the drift reaches the diorite it will serve as a location to drill the Nos. 1 - 3 veins.

Recent diamond drilling on the 5150 level failed to intersect high grade mining width mineralization, but intersected a number of significant values which might develop into better veins along strike or dip.

Soil sampling indicated 2 main areas anomalous in silver, lead and zinc where further work is required to test these anomalies.

A poorly exposed vein on the Barb 23 claim was sampled and assayed 0.17 oz/t gold, 2.75 oz/t silver, 1.85% lead and 0.50% zinc. Additional work will be required to trace and explore this vein.

It is concluded that if a sufficient tonnage is located at presently indicated grades and metallurgical test results are satisfactory, the property could become a small producer at the rate of about 200 tons per day. Advantages the property enjoys are:

- (1) Adit entry to mineralization; no shaft will be required.
- (2) Steeply dipping veins with good wall rocks and virtually no cross-faulting displacements.
- (3) Located within 25 km (by road) to the Alaska Highway.

RECOMMENDATIONS

- (1) Continue drifting southwest on the 5150 level No. 4 vein until the drift is well into the diorite. Approximately 100m is required. At this point underground diamond drilling can be done at the end of the drift to test the Nos. 1, 2 and 3 veins.

- (2) Continue drifting southwest on the 5150 level No. 6 vein for at least 30 m and further if good mineralization is encountered. This drift can later be used for diamond drilling the Nos. 5, 7 and 8 veins.

- (3) Continue underground A Q wire-line diamond drilling to locate the No. 5 vein on 5150 level.

- (4) Conduct additional soil testing on surface and carry out magnetometer and VLF-EM16 surveys over the same grid. The pyrrhotite associated with galena and sphalerite is strongly magnetic in drill core.

- (5) Undertake backhoe and/or Caterpillar trenching of known zones on surface west of the ridge crest and also on the vein located on the Barb 23 claim.

- (6) Undertake surface diamond drilling if results of surface sampling of trenches are positive.

- (7) A representative sample of average grade mineralization from the 5150 level No. 6 vein and the 5600 level No. 5 vein should be collected and submitted for metallurgical testing to determine metal recoveries.

- (8) The present road access is suitable during most of the year except during November and June. At some point, the lower elevation route should be upgraded to an all weather road.

ESTIMATED COSTS

It is recommended exploration be carried out as follows:

Phase 1: Winter Programme 1987, approximately 2 1/2 months.

| | | | |
|----------------------------------|------------------|---------------|------------|
| (1) Drifting | 130 m @ \$1000/m | \$ 130,000 | |
| (2) Underground Diamond Drilling | | | |
| | 225 m @ \$ 70/m | 15,750 | |
| (3) Mob & Demob | | 10,000 | |
| (4) Transportation & Freight | | 6,000 | |
| (5) Road Maintenance | | 6,000 | |
| (6) Equipment rental/purchase | | 35,000 | |
| (7) Food and camp fuel and misc. | | 20,000 | |
| (8) Engineering and management | | <u>40,000</u> | |
| | Sub Total | \$ 262,750 | \$ 262,750 |

Phase 2: Summer Programme 1987, approximately 2 1/2 months.

| | | | |
|---------------------------------------|-----------|---------------|------------|
| (1) Backhoe and/or Caterpillar rental | \$ 75,000 | | |
| (2) Surface diamond drilling | — | 150,000 | |
| (3) Underground diamond drilling | | 40,000 | |
| (4) Engineering and management | | 40,000 | |
| (5) Camp costs | | 20,000 | |
| (6) Metallurgical testing | | <u>30,000</u> | |
| | Sub Total | \$ 355,000 | \$ 355,000 |

Phase 3: (Contingent on previous results) Road
improvement, drilling, drifting,
preliminary feasibility studies \$ 1,000,000

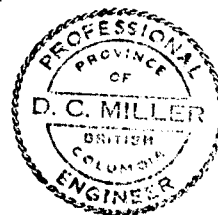
Total: \$ 1,617,750
=====

Respectfully submitted,

D.C. Miller

D.C. Miller, B.A. Sc. P. Eng.

December 3, 1986



INTRODUCTION

At the request of Mr. A. J. Arsenault, President of A. M. P. Explorations and Mining Co. Ltd., the present report was written to summarize previous and current work at the Logjam property and make recommendations for future work. During August to October 1986 the writer spent a total of 31 days on the property and was engaged in surface and underground geological mapping and sampling, a geochemical soil survey covering key western claims and underground diamond drilling layout and core logging. The writer has had access to a number of previous engineering reports on the property and has made use of this data with regard to previous work done on the property.

LOCATION AND ACCESS

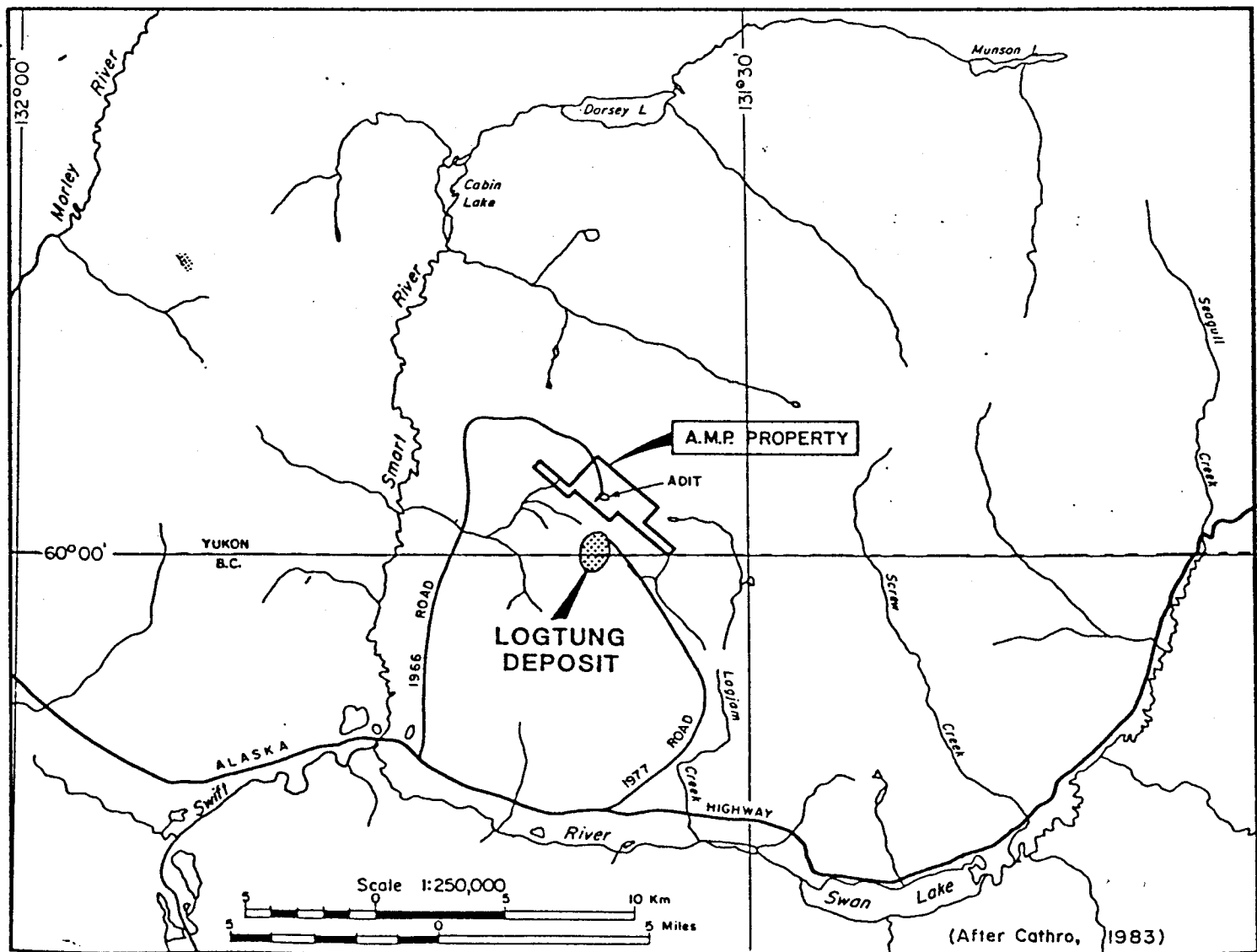
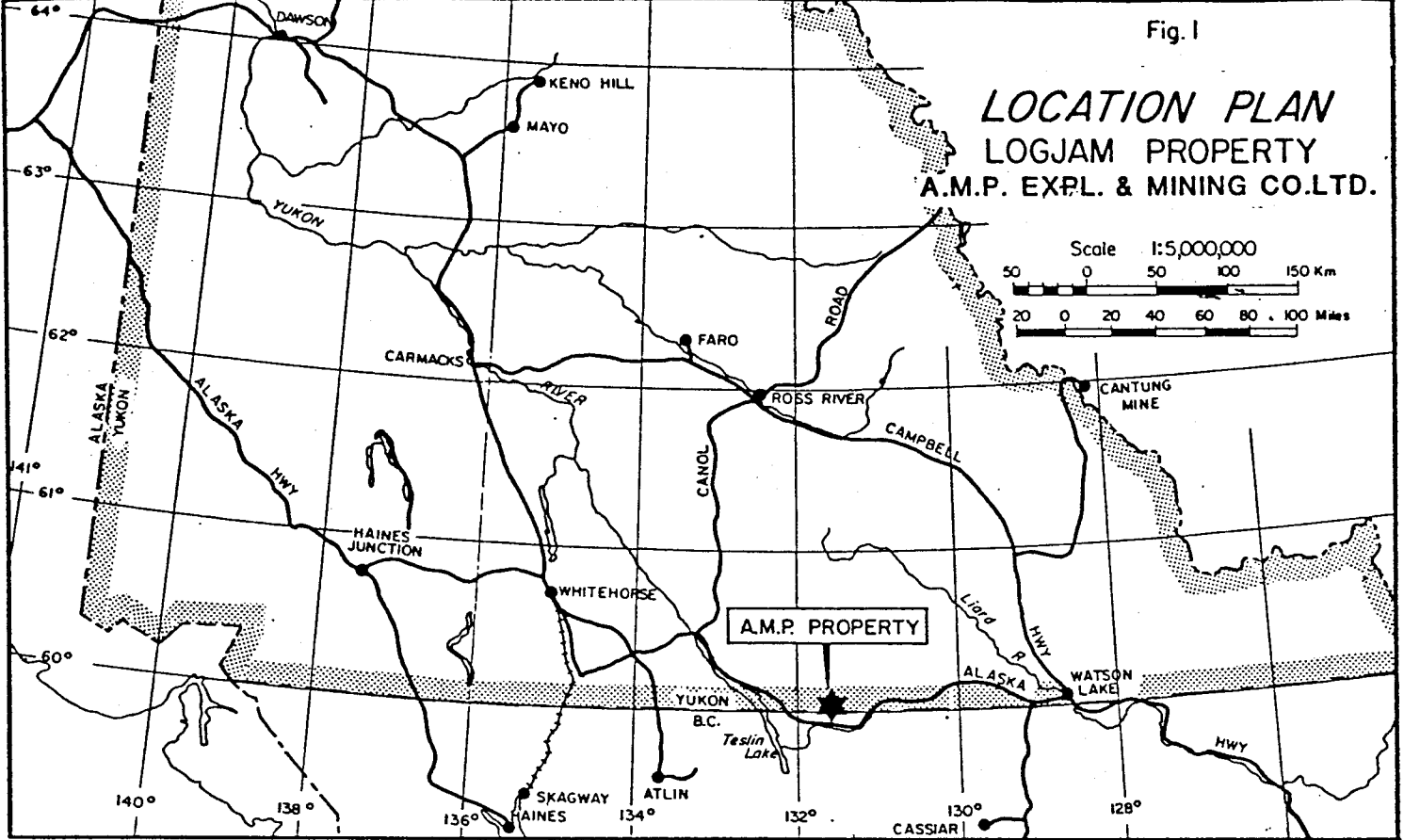
The property is located 13 km north of the Alaska Highway at a point some 260 km by road southeast of Whitehorse, Yukon. Geographic coordinates are 60 degrees 01 minutes North and 131 degrees 36 minutes West - NTS map-area 105B/4E.

Access is provided by an extension of a road to the adjacent Logtung property. This road enters the A. M. P. Logjam property at a distance of 15.5 km from the Alaska Highway and reaches the A. M. P. camp at approximately 20.5 km. The last 5 km of this road traverses along the sides of a ridge at an elevation of 5300 ft and a few short grades require a 4 wheel drive vehicle. This road could be maintained through winter with regular snow plowing.

Alternative winter access is provided by a lower elevation route which starts from the Alaska Highway at a point 2.5 km east of the

Fig. 1

LOCATION PLAN LOGJAM PROPERTY A.M.P. EXPL. & MINING CO.LTD.



(After Cathro, 1983)

Smart River bridge (Fig. 1). The distance to the A. M. P. camp from the Alaska Highway along this route is approximately 25 km. With minor improvements, this road could be upgraded to an all weather route.

PHYSIOGRAPHY

The property is located in mountainous terrain with elevations ranging from 4100 to 6200 ft. The dominant topographic feature is a northwest trending ridge which contains northeast striking precious-base metal veins. The northeast facing side of this ridge is steep and rocky while the southwest side is more gentle and accessible. Vegetation comprises mosses, grass, alpine shrubs and scrub-balsam.

The property is drained by tributaries of the Smart River and Logjam Creek. Ample year-round water is available for camp, mining and exploration purposes.

CAMP AND EQUIPMENT

The present camp consists of a 20-person trailer camp complete with fully equipped kitchen and office trailers. Power is provided by a Lister diesel 15 KVA generator. Other major equipment includes: 2 - 4 wheel drive vehicles, 1 D-6 Caterpillar tractor, 2 Eimco 12-B mucking machines, 1 Eimco air locomotive, 6 1-ton mine cars, 1 Gardner-Denver 1200 cfm air compressor, underground track, pipe and ventilation tubing, powder magazines and miscellaneous equipment.

PROPERTY AND OWNERSHIP

The property comprises 46 full size and fractional mineral claims in one contiguous group (Fig. 2). The claims are owned by A. M. P. Explorations and Mining Co. Ltd. and include the following claims:

| | |
|---------------------|--------------|
| Barb 1 - 16 | Y72102 - 17 |
| Barb 17 - 24 | YA21405 - 12 |
| Barb 29 - 30 | YA68731 - 32 |
| Barb 1 - 6 FR. | YA68725 - 30 |
| Fractions 100 - 103 | YA55782 - 85 |
| Log 20 | YA 11229 |
| Log 22 | YA 11231 |
| Log 24 | YA 11233 |
| Log 26 | YA 11235 |
| Log 45 | YA 11378 |
| Log 53 | YA 11386 |
| Log 55 | YA 11388 |
| Log 90 | YA 11423 |
| Log 92 | YA 11425 |
| Log 133 | YA 11466 |

The claims have a common anniversary date of October 8 and expiry dates range from 1990 to 1992. A recent legal claim survey qualifies the Barb 1 - 8 and Fractions 100 - 101 for 21 year leases.

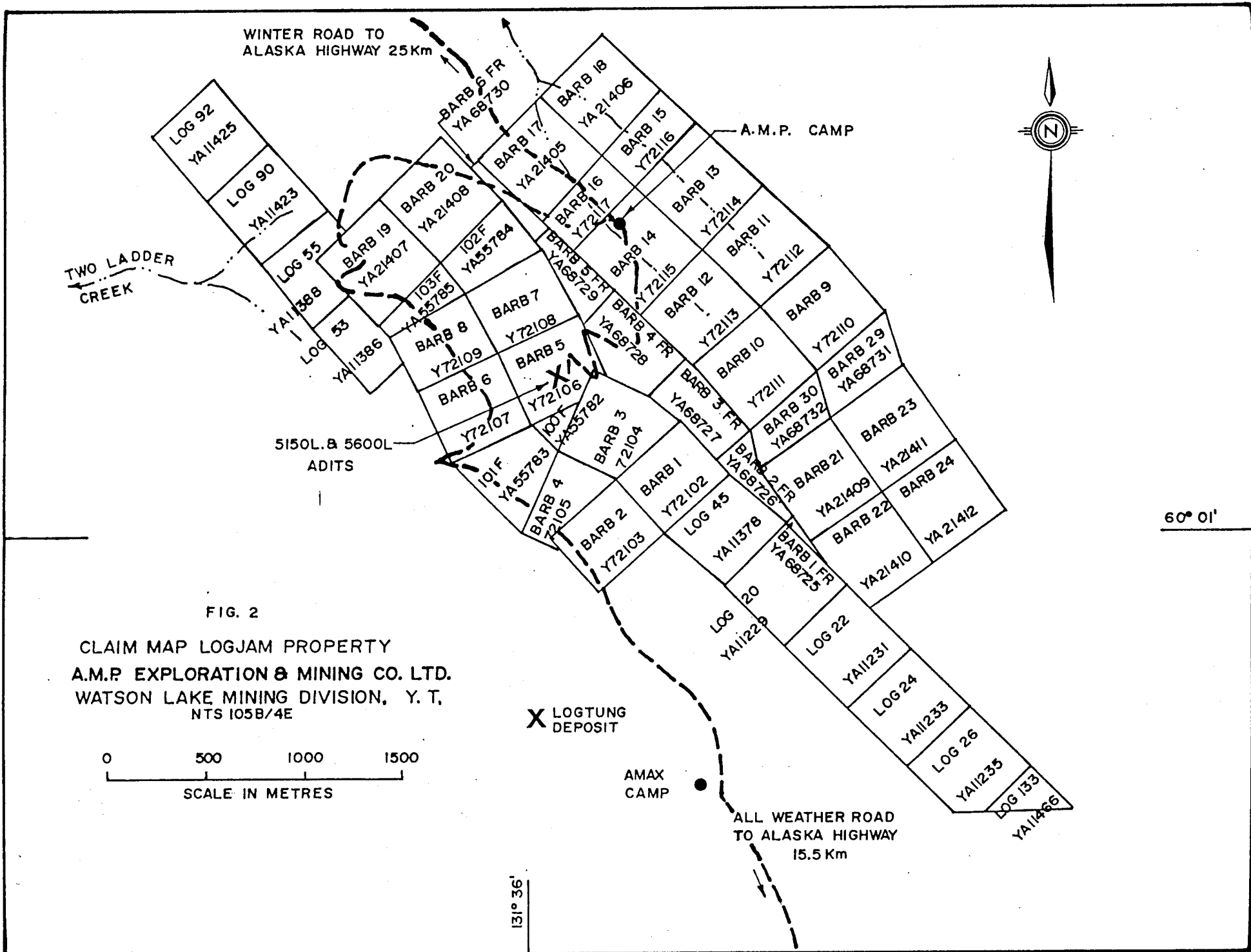


FIG. 2

CLAIM MAP LOGJAM PROPERTY
 A.M.P. EXPLORATION & MINING CO. LTD.
 WATSON LAKE MINING DIVISION, Y. T.,
 NTS 105B/4E



HISTORY AND PREVIOUS WORK

Showings on the Barb claims were discovered in 1943 by W. McKinnon and R. Puls while prospecting for Hudson Bay Mining and Smelting Co. Ltd. Hudson Bay staked claims in 1944 and conducted prospecting, mapping, sampling and completed 9 diamond drill totalling 1256.7 m in 1945.

Although initial surface work was moderately successful, the claims were allowed to lapse and were later restaked in 1958 by McKinnon. In 1961 minor trenching was done by Kootenay Base Metals Ltd. under an option agreement. Later, McKinnon optioned the claims to Macassa Gold Mines Ltd. which through a subsidiary company, Logjam Silver Mines Ltd., completed 205.7 m of cross-cutting and 794.6 m of underground diamond drilling in 6 holes. The results of this work were inconclusive as the underground workings did not reach their targets and the diamond drill core recovery was very poor. Macassa dropped its option, however, development continued in 1966 and 1967 funded initially by Nilset Exploration Ltd. (a private company) and later by Pure Silver Mines Ltd., a related, newly formed public company. Work by these two companies included road construction, 272.8 m of drifting and cross-cutting on the 5150 level and 219.5 m of mainly drifting on the 5600 level. This programme was successful in exposing good lengths of silver-gold-lead-zinc mineralization in the No. 6 vein on 5150 level and in the No. 5 vein on 5600 level. Despite this encouragement, the claims were allowed to lapse in 1973 and were restaked as the Barb claims and transferred to A. M. P. Explorations and Mining Co. Ltd.

During 1974 to 1977 the property was optioned to Darva Resources and Development Ltd. but only minor road work was done during this period.

In 1976 the Logtung porphyry tungsten-molybdenum deposit was discovered immediately south of the A. M. P. property by the Bath 1976 Partnership. This property was subsequently optioned to Amax Potash Ltd. who built a new road to their property. In 1979 - 1980, the Amax road was extended some 5 km to the A. M. P. camp. This work was done by Rebel Developments Ltd. who held an option on the A. M. P. claim at this time.

Subsequently, A. M. P. optioned the property to a newly formed company, Pure Silver Mines Ltd., which installed a new trailer camp, purchased mining and drilling equipment, conducted legal and control surveys, completed minor underground rehabilitation and 14.3 m of drifting on the No. 4 vein and did preliminary metallurgical testing.

The metallurgical testing was done in December 1980 by Lakefield Research on a 26 kg sample of typical vein mineralization. This material analyzed as follows: lead 1.65%, zinc 3.35%, gold 3.46 g/t, silver 105.45 g/t, copper 0.071% and iron 15.7%. Five preliminary floatation tests were conducted which showed lead and zinc concentrates could be achieved by floatation. Further work was recommended to determine the ultimate recoveries of gold and silver but these tests were not done.

Total expenditures on the property during 1944 - 1983 were estimated at \$1.2 million (Cathro, 1983).

CURRENT WORK

During August to October, 1986 A. M. P. Explorations and Mining Co. Ltd. completed the following work: Camp and underground rehabilitation, regrading of the road from the campsite to the mine, 20 m of drifting on the No. 4 vein on 5150 level, 318.5 m of underground AQ wireline diamond drilling on 5150 level, remapping and resurveying of much of 5150 level, soil sampling, bedrock sampling and surface geological mapping covering 6 key claims. The cost of this programme was approximately \$130,000.

REGIONAL GEOLOGY

The Logjam property and adjacent areas are underlain by rocks of the Yukon Cataclastic Complex (Abbott, 1981). The Yukon Cataclastic Complex is interpreted to be an allochthonous assemblage of tectonically interleaved clastic, carbonate, volcanic and intrusive rocks which were obducted onto the North American craton during mid-Mesozoic time. These rocks are dated as Carboniferous and ? Younger. Intrusive rocks within the complex have been divided into 2 groups: (1) an older suite which includes a variety of mafic and ultramafic rocks which have been assigned a probable Jurassic age and (2) a younger suite of felsic intrusions which are dated as Cretaceous age. However, near the property, dioritic dykes at Logtung have been dated as Triassic age (S.R. Noble et al., 1984).

PROPERTY GEOLOGY

SUMMARY

The property is underlain by Unit PM₄ (Abbott, 1981) which on the property consists of shale, slate, phyllite, light grey and buff weathering limestone, grey siliceous limestone, massive quartzite and minor black limestone beds less than 1 m thick. These sediments strike northwest and generally dip at moderate angles to the northeast.

Near the underground workings, the sediments are cut by a northwest trending fine to medium grained diorite intrusive, about 300 m thick, which dips about 80 degrees westward. Near the contact with this intrusive sediments are altered to hornfels and marble.

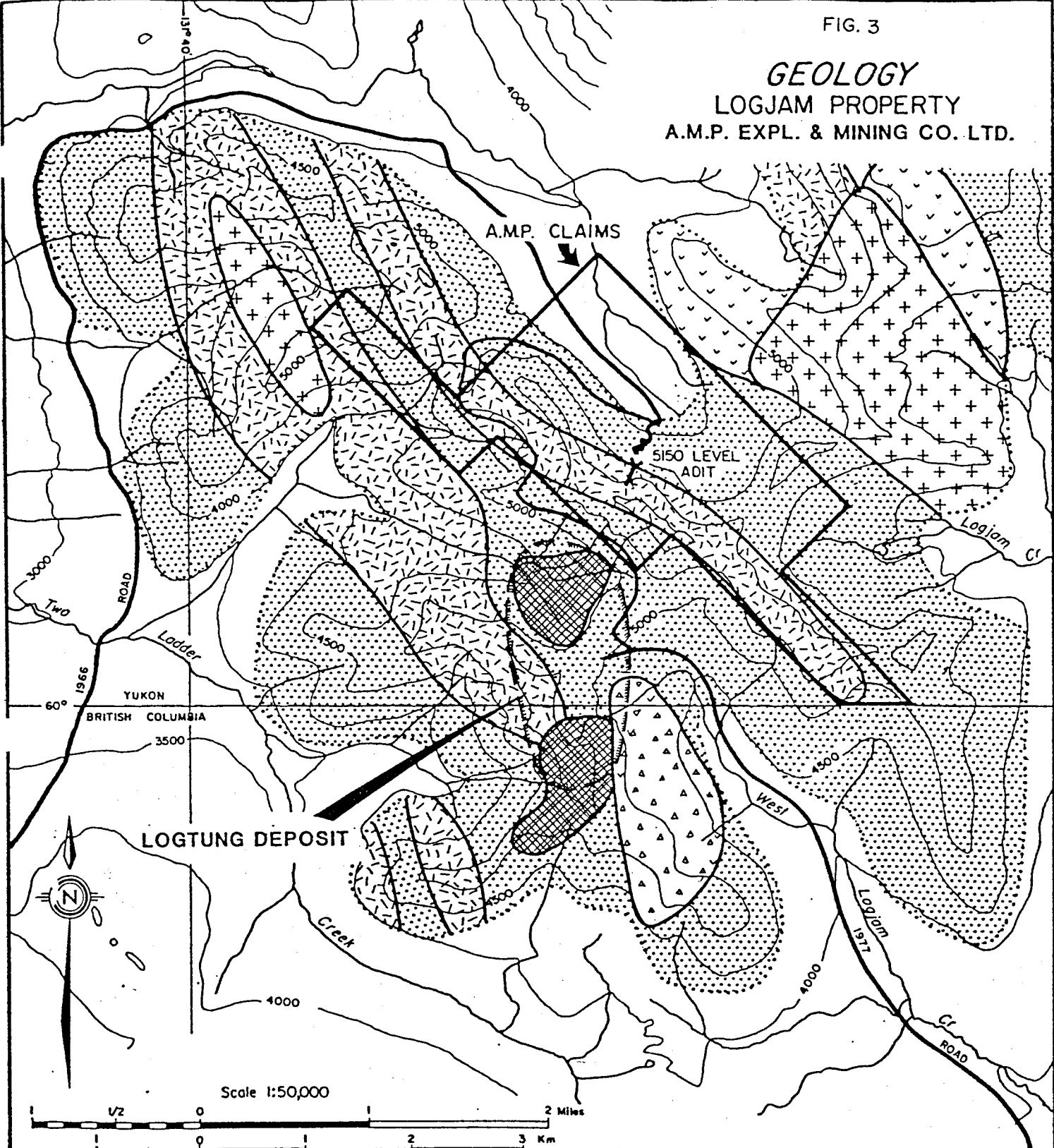
In addition to the diorite, the sediments are cut by a number of mafic to felsic dykes. Felsic dykes may carry up to 10% fine pyrite and rusty alteration is often associated with these dykes. Both these late felsic dykes and precious-base metal veins may be related to the intrusion of the Cretaceous age Logtung stock. Both late dykes and veins tend to follow prominent jointing in the diorite and a parallel cleavage attitude in the sediments. The jointing/cleavage trends at N 20 degrees - N 50 degrees E by nearly vertical.

In conjunction with the geochemical survey, rock outcrops were mapped as shown on the accompanying Fig. 12. No microscope work was done and rocks were named on the basis of hand-specimens and with regard to previous work (Abbott, 1981).

As with the geochemical survey, mapping was confined to the Barb 3 - 8, 19 - 20 and adjacent fractional claims. Sediments and

FIG. 3

GEOLOGY
LOGJAM PROPERTY
A.M.P. EXPL. & MINING CO. LTD.



LOGTUNG DEPOSIT




A.M.P. CLAIMS




5150 LEVEL ADIT

Scale 1:50,000

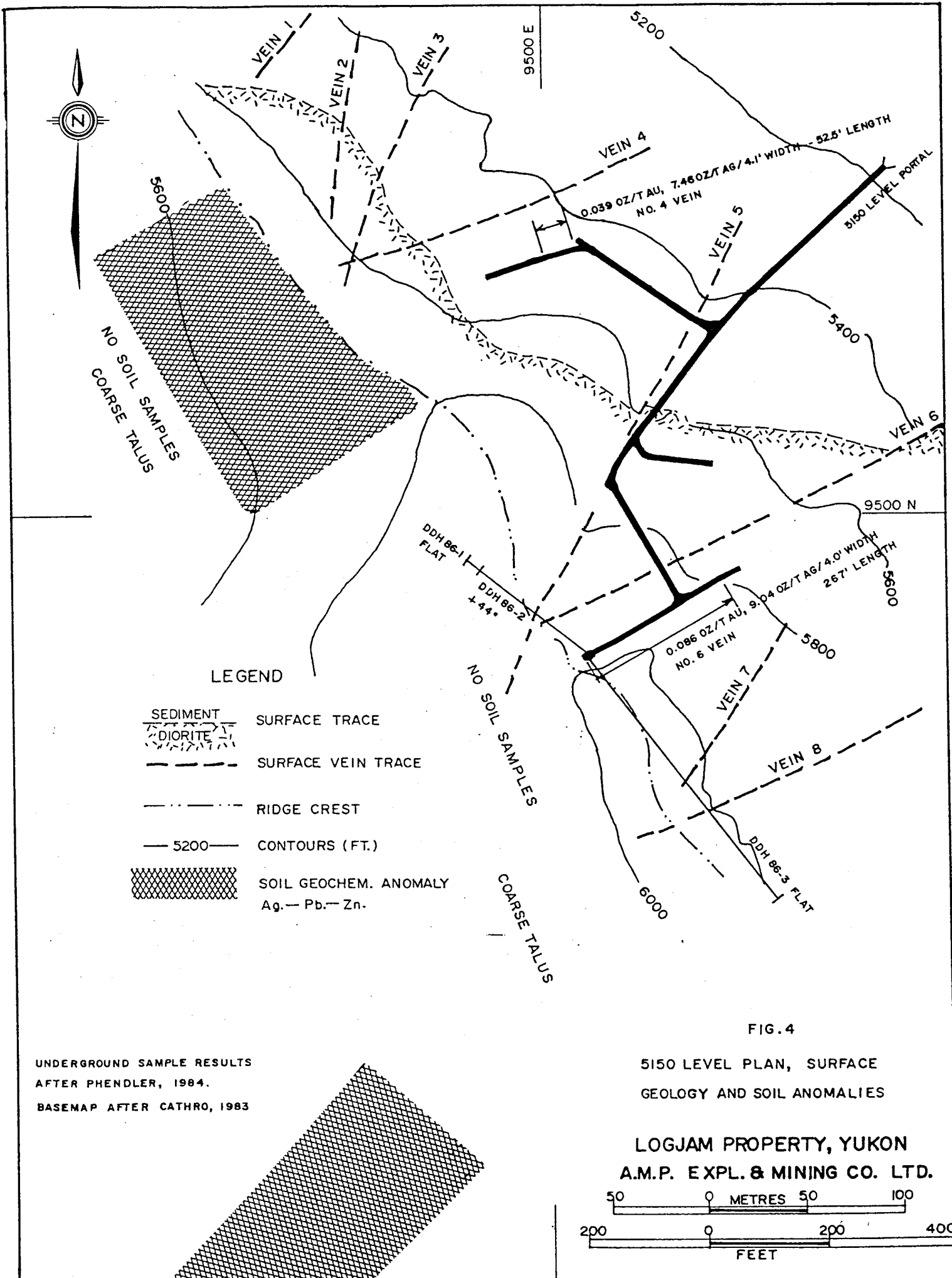


LEGEND

-  **ALTERATION ZONE**—skarnified metasediments, pervasive quartz stockwork with tungsten/molybdenum mineralization
-  **CRETACEOUS** — biotite granite porphyry
-  **JURA-CRETACEOUS** — Logjam Stock, biotite hornblende quartz monzonite

-  **TRIASSIC** — Plate Creek Stock, diorite
-  **JURASSIC** — ultramafic rocks
-  **CARBONIFEROUS & ? YOUNGER** Yukon Cataclastic Complex

(Modified after Cathro, 1983 Noble et al, 1984 & government maps.)



NO SOIL SAMPLES
COARSE TALUS

LEGEND

- SEDIMENT
- DIORITE
- SURFACE TRACE
- SURFACE VEIN TRACE
- RIDGE CREST
- 5200
- CONTOURS (FT.)
- SOIL GEOCHEM. ANOMALY
Ag.—Pb.—Zn.

NO SOIL SAMPLES

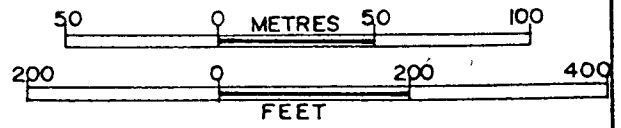
COARSE TALUS

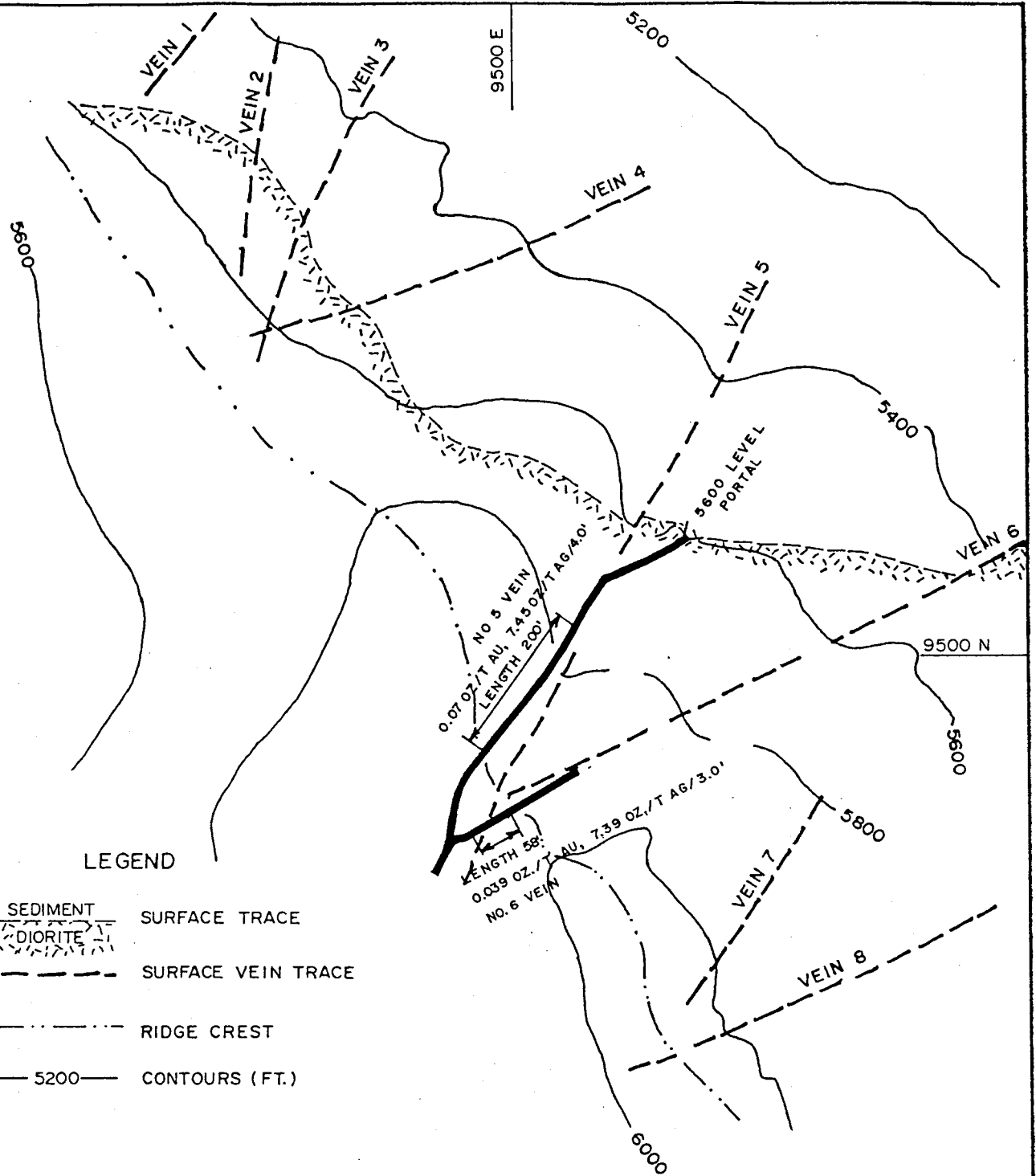
UNDERGROUND SAMPLE RESULTS
AFTER PHENDLER, 1984.
BASEMAP AFTER CATHRO, 1983

FIG. 4

5150 LEVEL PLAN, SURFACE
GEOLOGY AND SOIL ANOMALIES

LOGJAM PROPERTY, YUKON
A.M.P. EXPL. & MINING CO. LTD.





LEGEND

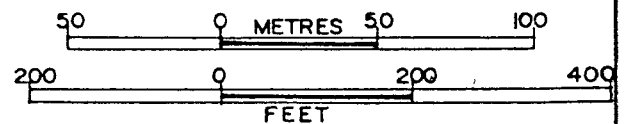
- SEDIMENT
- DIORITE
- SURFACE TRACE
- SURFACE VEIN TRACE
- RIDGE CREST
- 5200 CONTOURS (FT.)

UNDERGROUND SAMPLE RESULTS
AFTER PHENDLER, 1984.

BASE MAP AFTER CATHRO, 1983.

FIG. 5
5600 LEVEL PLAN
& SURFACE GEOLOGY

LOGJAM PROPERTY, YUKON
A.M.P. EXPL. & MINING CO. LTD.



intrusive rocks were divided into 10 units (Fig. 12).

TABLE OF FORMATIONS

| <u>Period</u> | <u>Map Unit</u> | <u>Lithology</u> | <u>Thickness (M)</u> |
|--------------------------------|-----------------|---|----------------------|
| Cretaceous ? | 10 | Felsic, pyritic dykes | - |
| " | 9 | Feldspar/hornblende porphyry dykes and small intrusions | - |
| " | 8 | Intermediate to mafic dykes | - |
| " | 7 | Leucocratic intrusive | - |
| Triassic | 6 | Diorite | - |
| Carboniferous and ? Younger | 5 | Quartzite, argillaceous quartzite, Biotite hornfels | 50 + |
| " " | 4 | Limestone, variably silicified, mainly light grey. | 0-30 |
| " " | 3 | Slate and phyllite, dark grey recessive. | 100 + |
| " " | 1 and 2 | Shale, brown-grey, thin bedded, impure limestone, slate and quartzite | 150 + |

Units 1 and 2

These rocks were mapped in small outcrops along the access road. To the south they comprise brownish-grey thin-bedded shaly rocks and are relatively undisturbed. To the north, these rocks consist of pale grey impure limestone, dark grey limestone, slate and quartzite and are sheared and disturbed; bedding attitudes are not discernable. Near the contact of unit 6 (diorite) these rocks are bleached white and are silicified.

Unit 3

This unit consists of dark grey slate and phyllite and is best exposed on the Barb 19 and 20 claims. It is recessive weathering and forms relatively fine talus slopes.

Unit-4

To the north this unit is a distinctive pale grey cherty limestone which is finely fractured and locally 100% silicified. It is massive to poorly bedded. To the south this limestone is darker grey, thinner, less siliceous, discontinuous and appears to be present as two or more beds. It is altered to a weak skarn or to marble near unit 6 (diorite).

Unit 5

This unit comprises massive grey to greenish grey quartzite and argillaceous quartzite. Near the contact of unit 6 (diorite), it is altered to biotite hornfels.

Unit 6

This unit consists of an elongate, northwest trending intrusion of fine grained, dark grey diorite. Both mafic and feldspar crystals are anhedral and the diorite contains a number of inclusions of pre-intrusive rock.

Unit 7

This small fine to medium grained light colored intrusive contains about 15% mafics, mainly as hornblende. Crystals are euhedral to subhedral and the rock is likely a granodiorite or a quartz monzonite.

Unit 8

This unit comprises intermediate to mafic dykes and the largest dyke appears to be dioritic in composition.

Unit 9

This unit is exposed along the ridge on the Barb 7 - 8 and Fr 102 claims. It consists of feldspar and hornblende porphyry dykes and small intrusions.

Unit 10

This unit consists of a number of small siliceous dykes carrying much fine grained pyrite.

STRUCTURE

As mentioned previously, sediments strike northerly and dip mainly

at moderate angles easterly. The sediments are locally sheared or brecciated as would be expected considering the geologic history of the area (Abbott, 1981). The quartzite unit along the ridge has a strong northeast cleavage direction while the nearby diorite has a nearly parallel northeast jointing direction. Both cleavage and joints dip steeply northwest or southeast.

MINERALIZATION

Mineralization occurs in at least 10 northeasterly striking vein-fracture zones. Veins vary from a few centimetres to over a metre in width and dip steeply northwest or southeast. Mineralization includes pyrrhotite, pyrite, arsenopyrite, galena and sphalerite in a generally siliceous gangue. Trace amounts of tungsten, bismuth and antimony minerals are also present.

Wall rocks are generally hard diorite and within the diorite the veins are competent and little wall rock dilution will occur in any future mining operation. However, on the 5150 level No. 4 vein, which has been drifted on within the metasediments, the wall rock is locally sheared, graphitic and unstable. Previous operators considered that the highest grade mineralization occurs within the diorite. To date, this has been the case.

Because the veins are best exposed on a steep rocky slope, surface diamond drilling in the past has been limited and prior to underground work only minor drilling and chip sampling was done. Chip sampling was concentrated on the Nos. 5 and 6 veins within the diorite. Results of early chip sampling by Hudson Bay Mining are tabulated as follows:

(After Cathro, 1974).

| <u>Vein No.</u> | <u>No. of Samples</u> | <u>Slope Length (Ft)</u> | <u>Average Width (Ft)</u> | <u>oz/t</u> | | <u>%</u> | |
|-----------------|-----------------------|--------------------------|---------------------------|-------------|-----------|-----------|-----------|
| | | | | <u>Au</u> | <u>Ag</u> | <u>Pb</u> | <u>Zn</u> |
| 5 | 8 | 580 | 2.3 | 0.20 | 25.4 | 3.7 | 5.5 |
| 6 | 6 | 460 | 3.1 | 0.11 | 20.2 | 2.7 | 1.0 |

Underground drifting on the No.5 vein on 5600 level and the No.6 vein on 5150 level (both within diorite) gave the following results based on chip-channel samples spaced at 5 ft. (After Cathro, 1974).

| <u>Level</u> | <u>Vein No.</u> | <u>Length (Ft)</u> | <u>Width (Ft)</u> | <u>oz/t</u> | | <u>%</u> | |
|--------------|-----------------|--------------------|-------------------|-------------|-----------|-----------|-----------|
| | | | | <u>Au</u> | <u>Ag</u> | <u>Pb</u> | <u>Zn</u> |
| 5150 | 6 | 40 | 2.4 | 0.16 | 21.9 | 2.5 | 3.1 |
| | 6 | 115 | 2.8 | 0.13 | 15.4 | 4.8 | 3.4 |
| 5600 | 5 | 45 | 3.1 | 0.14 | 17.8 | 2.5 | 3.5 |
| | 5 | 50 | 2.9 | 0.11 | 8.1 | 1.4 | 4.8 |
| | 5 | 40 | 2.3 | 0.12 | 12.0 | 1.2 | 2.1 |
| | 6 | 10 | 2.5 | 0.09 | 16.5 | 2.7 | 1.3 |
| | 6 | 10 | 2.5 | 0.09 | 17.0 | 1.9 | 0.3 |

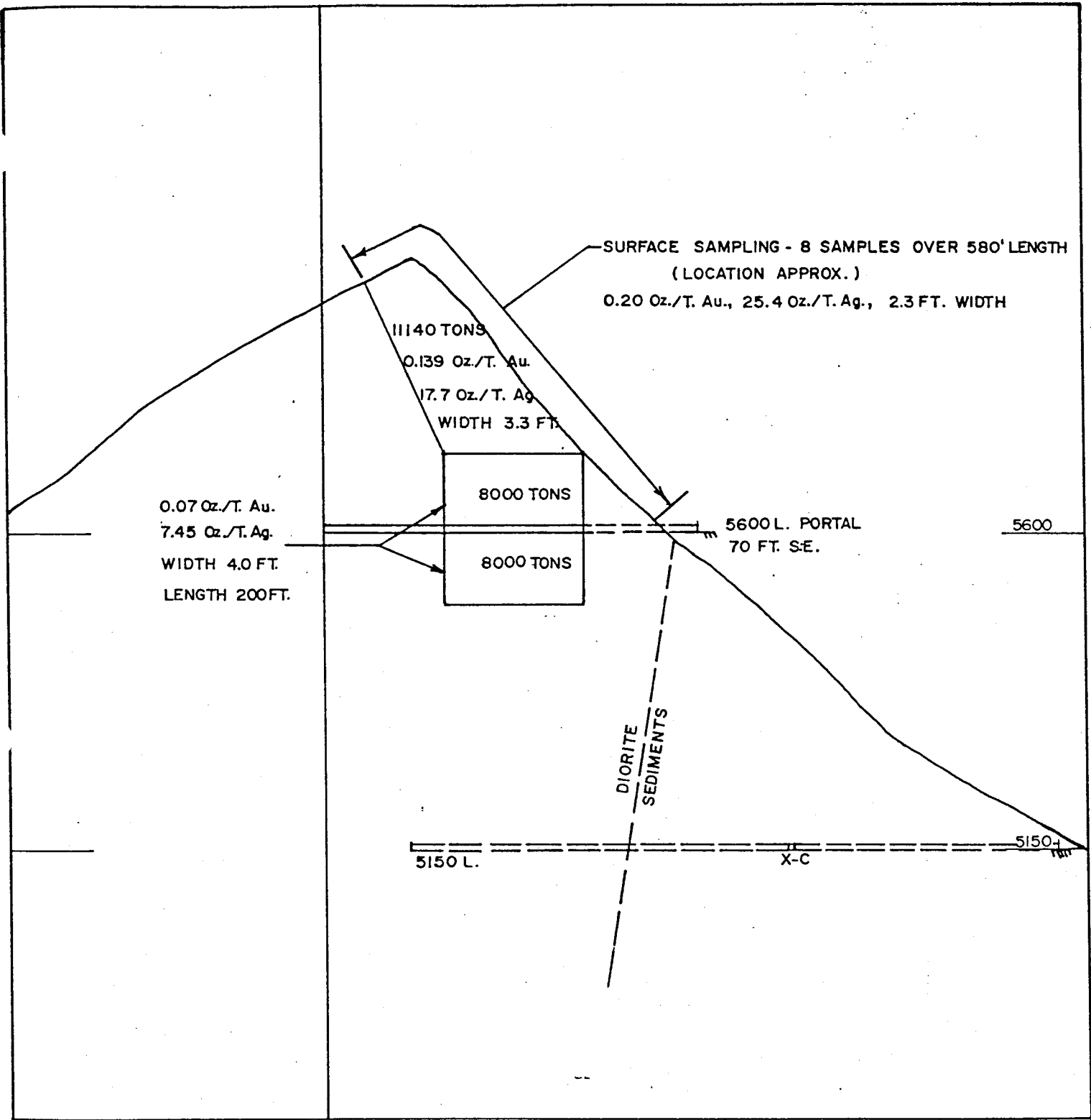
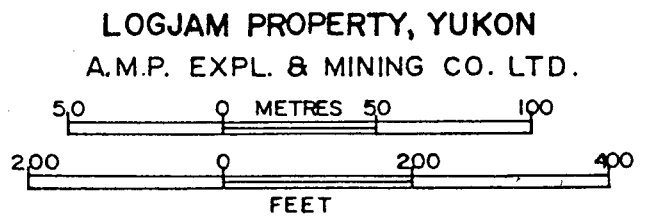


FIG. 6
 LONGITUDINAL SECTION
 NO. 5 VEIN
 SHOWING ORE RESERVE BLOCKS (DILUTED)
 MODIFIED AFTER PHENDLER (SEPT. 1984)
 SECTION LOOKING NORTHWEST



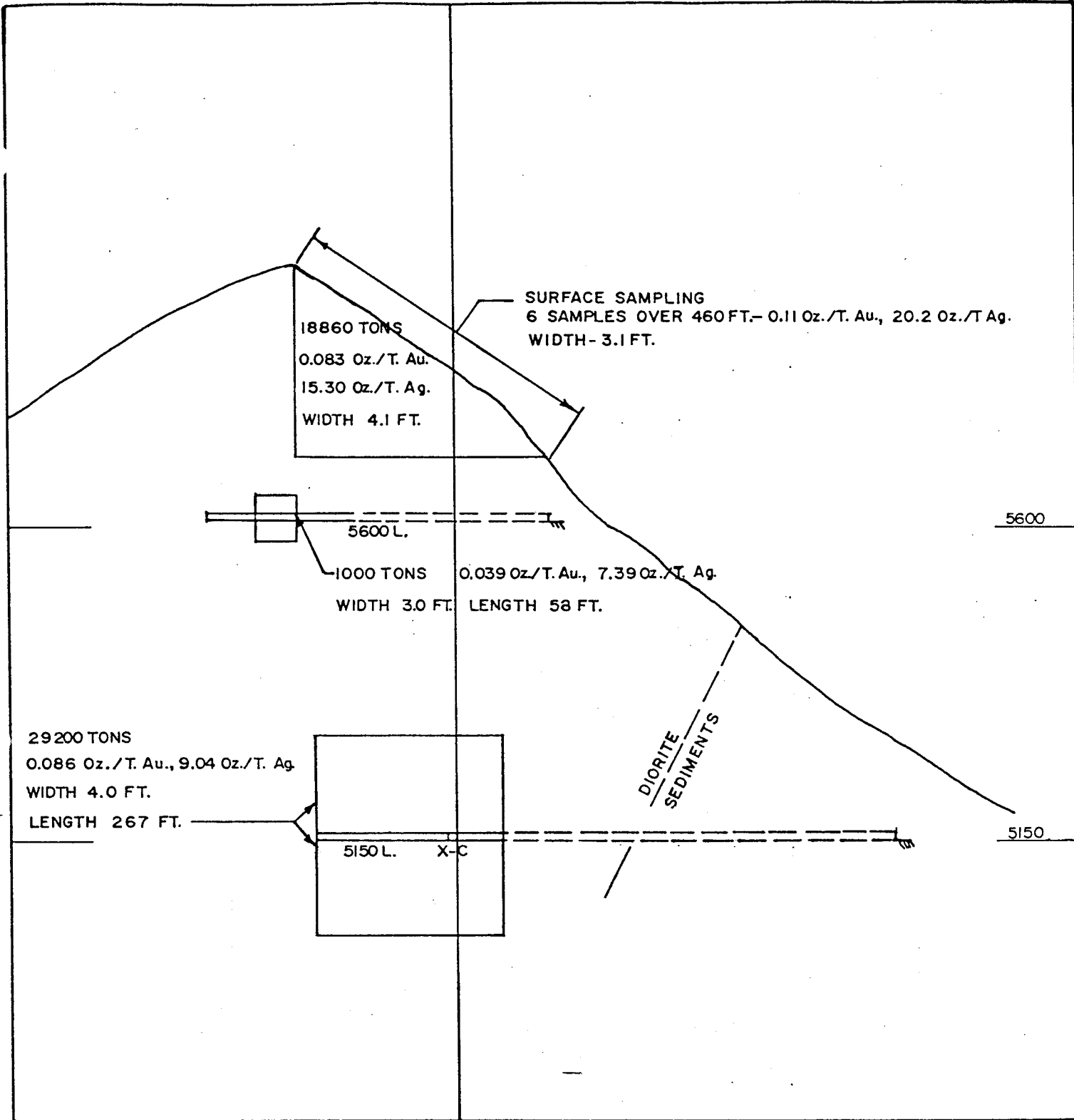


FIG. 7
LONGITUDINAL SECTION

NO. 6 VEIN

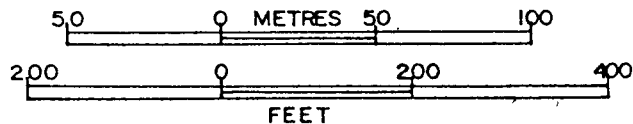
SHOWING ORE RESERVE BLOCKS (DILUTED)

MODIFIED AFTER PHENDLER (SEPT. 1984)

SECTION LOOKING NORTHWEST

LOGJAM PROPERTY, YUKON

A.M.P. EXPL. & MINING CO. LTD.



ORE RESERVES

Based on the same assay data as used by Cathro (1974) R. W. Phendler, P. Eng. calculated probable ore reserves for the property to total 77,320 tons grading 0.088 oz/t Au, 11.44 oz/t Ag with approximately 2% Pb and 3% Zn (Phendler 1984). Phendler's calculation was based on 4.0 - 4.1 ft. mining widths, including dilution, except for the upper parts of the Nos. 5 and 6 veins, where 3.3 and 3.0 ft. widths were used. Phendler's ore blocks are shown on Figs. 6 and 7 in longitudinal section.

SOIL AND BEDROCK SAMPLING

A total of 210 soil samples were collected in Kraft bags at 25 m intervals along grid lines spaced 100 m apart and along roads. Grid lines were oriented by compass and tied to claim posts. Along some grid lines, samples could not be obtained because of the presence of rock outcrops and coarse talus. Soil samples were taken at an average depth of 20 cm and included brown to greyish alpine soils of the "B" and "C" horizons. The samples were delivered to Bondar-Clegg and Co., Whitehorse, where they were dried and sieved to minus 80 mesh. The minus 80 mesh fraction was sent to Bondar-Clegg and Co., Vancouver where each sample was analyzed for silver, lead and zinc by the Atomic Absorption method using hot HNO₃ - HCL for extraction. Results of this work are plotted on the accompanying Fig. 11.

A total of 36 samples contained over 7 ppm silver with

accompanying high lead and zinc values. In particular, 2 areas contained very high values ranging up to 39 ppm silver. The locations of these areas are shown on accompanying Figures 4 and 11 with respect to the 5150 level underground workings.

A total of 5 bedrock samples were collected from rusty areas at various locations on the property. Each sample consisted of about 10 pounds of bedrock and each was analyzed by Bondar-Clegg and Co., Vancouver. Two of these samples were analyzed for gold, silver and tungsten and 3 were analyzed for silver, lead and zinc.

Rock samples were crushed to minus 150 mesh and silver, lead and zinc were analyzed as were the preceding soils, while tungsten was analyzed by the Colourimetric method following carbonate sinter extraction. Gold was analyzed by fire-assay extraction followed by Atomic Absorption.

The locations and results for these samples are shown on Figure 12. The highest sample contains 16 ppm silver.

In addition to rock geochem, 19 bedrock samples were collected from mineralized float or as chip samples from veins and were assayed for gold, silver, lead and zinc and some for tungsten. The No. 5 vein was resampled on the ridge crest and returned values of 0.05 oz/t gold, 10.06 oz/t silver, 6.19% lead and 0.11% zinc over a true width of 1.27 m (samples 86-1 and 86-2 Fig. 12). A previously unreported vein returned values of 0.17 oz/t gold, 2.76 oz/t silver, 1.85% lead and 0.50% zinc over a true width of 1.65 m. This vein is poorly exposed on a ridge crest on the Barb 23 claim some 1800 m southeast of the A. M. P. camp. The vein strikes N 15 degrees E and dips vertically

to 85 degrees W.

Other surface samples ranged from 0.02 to 0.09 oz/t gold and 0.76 to 19.1 oz/t Ag. The locations and results of these samples are shown on the accompanying Figure 12.

All assays were performed by Bondar-Clegg, Vancouver, B.C.

DIAMOND DRILLING

Three holes (AQ wireline) totalling 318.5 m were completed on the 5150 level as part of a previously recommended programme (Phendler, 1984). Holes 1 and 2 were drilled to locate the No. 5 vein and Hole 3 was drilled to explore down-dip projections of the Nos. 7 and 8 veins. Locations of these holes are shown on Figures 4, 8 and 13. In general, core recovery was generally very good. In logging this core, it was noted that pyrrhotite, which accompanies galena and sphalerite mineralization, is strongly magnetic. Significant intersections are tabulated as follows:

| <u>No.</u> | <u>Dip</u> | <u>Intersection (Ft)</u> | <u>Core Length (Ft)</u> | <u>oz/t</u> | | <u>%</u> | |
|------------|------------|--------------------------|-------------------------|-------------|-----------|-----------|-----------|
| | | | | <u>Au</u> | <u>Ag</u> | <u>Pb</u> | <u>Zn</u> |
| 86-1 | Flat | 115.0 - 116.7 | 1.7 | 0.009 | 3.65 | 3.05 | 1.45 |
| | | 155.0 - 156.3 | 1.3 | 0.033 | 12.66 | 4.75 | 2.60 |
| | | 214.0 - 217.5 | 3.5 | <0.002 | 0.05 | 0.04 | <0.01 |
| 86-2 | + 44° | 259.4 - 261.2 | 1.8 | 0.053 | 6.78 | 1.20 | 8.30 |

Significant intersections - continued

| Hole No. | Dip | Intersection (Ft) | Core Length (Ft) | oz/t | | % | |
|-------------|------|-------------------|------------------------|-------|------|------|-------|
| | | | | Au | Ag | Pb | Zn |
| 86-3 | Flat | 166.2 - 170.0 | 3.8 | 0.005 | 0.21 | 0.06 | 1.46 |
| | | 176.0 - 178.0 | 2.0 | 0.002 | 1.31 | 0.88 | 1.97 |
| | | 263.8 - 266.7 | 2.9 | 0.007 | 1.63 | 0.60 | 0.75 |
| | | 380.5 - 384.3 | 3.8 | 0.01 | 3.30 | 1.12 | 1.00 |
| | | 392.8 - 393.3 | 0.5 | 0.102 | 4.89 | 3.55 | 11.00 |
| | | 426.0 - 427.5 | 1.5 | 0.002 | 3.51 | 1.61 | 0.75 |

The first two intersections in hole 1 are nearly true width and do not correlate with known veins. A weak intersection at 214.0-217.5 ft. correlates with the projected position of the No. 5 vein.

The intersection in hole 2 correlates well with the projected position of the No. 5 vein. The true width would be about 1.4 ft.

In hole 3 intersections at 263.8 - 266.7 and at 380.5 - 384.3 correlate with the projected positions of the No. 7 and No. 8 veins.

Details of starting and finishing dates, bearing and dip are included with accompanying drill logs. Hole 86-1 is stored at the A. M. P. office in Whitehorse, while holes 86-2 and 3 are stored on the property camp site.

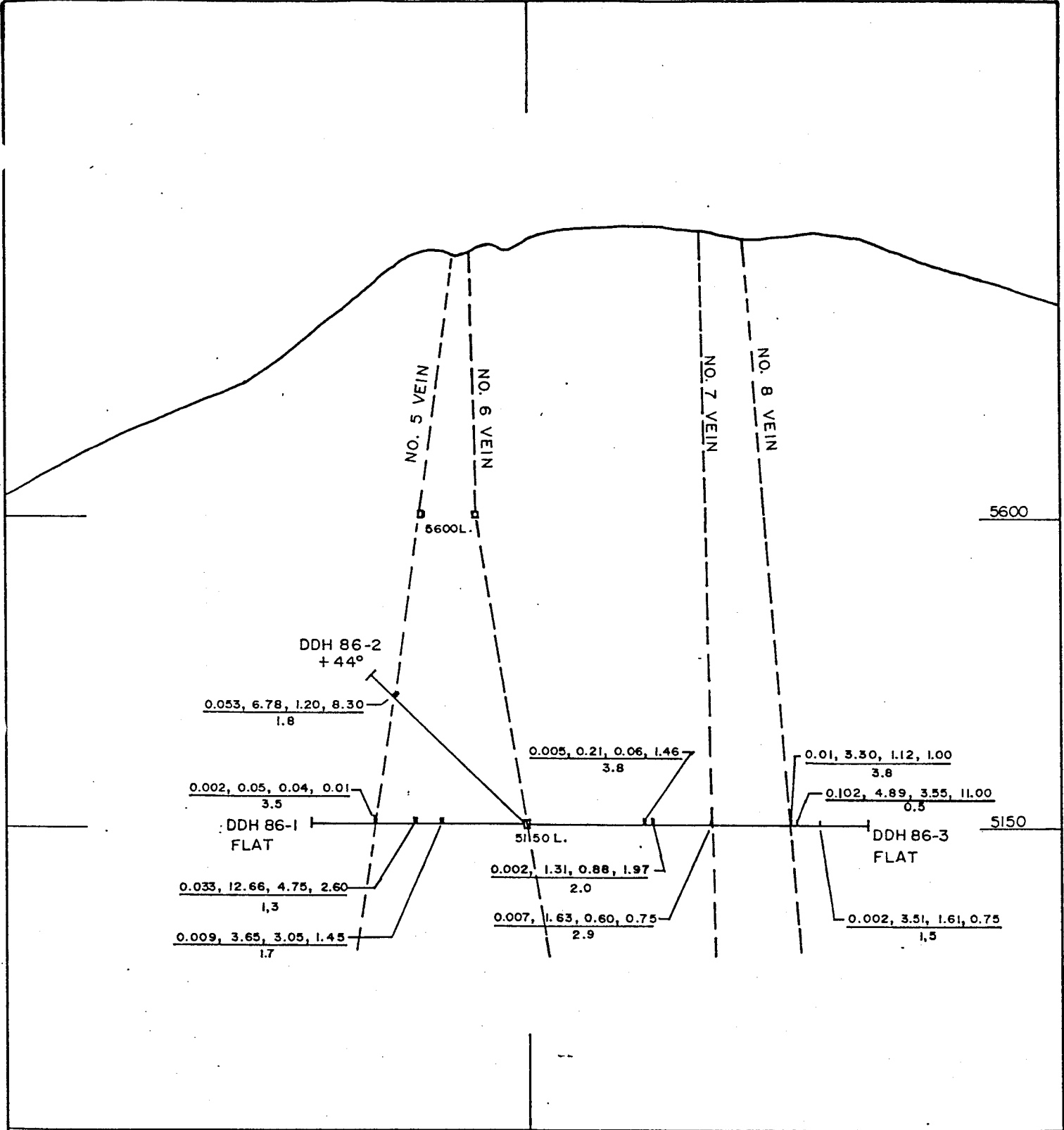


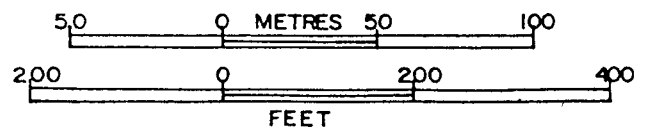
FIG. 8

CROSS-SECTION—1986 DRILLING
(LOOKING NE)

LEGEND

OZ/T AU, OZ/T AG, %PB, %ZN
CORE LENGTH FT.

LOGJAM PROPERTY, YUKON
A.M.P. EXPL. & MINING CO. LTD.



NO. 4 VEIN DRIFTING - 5150 LEVEL

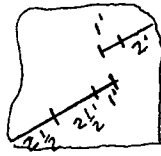
Drifting on the No. 4 vein commenced on September 8 and was completed on September 21, 1986. The 2.1 x 2.1 m drift advanced a total of 21 m in 12 shifts including 2 slashes. The drift followed a strong vein system containing pyrrhotite, pyrite, arsenopyrite, galena and sphalerite mineralization. Gangue consisted of massive quartz and sheared graphitic quartz.

The drift was mapped and chip sampled at 3 m intervals for a total of 25 samples. Chip sample assays for the best mineralization on the left side of the drift averaged 0.013 oz/t gold, 2.32 oz/t silver, 0.62% lead and 0.74% zinc over an average width of 1.76 m for the 21 m length. A composite sample made from muck samples from each round which would include lower grade from the right hand side of the drift averaged 0.013 oz/t gold, 2.25 oz/t silver, 0.48% lead, 0.56 % zinc, 0.02% bismuth, 1.45% arsenic, 0.02% tungsten and less than 0.01% tin.

Mapping and sampling are illustrated on Figs. 9 and 10. Total volume excavated is in excess of 92.6 cubic m.

DIAMOND DRILL HOLE SLASHES - NO. 6 VEIN DRIFT, 5150 LEVEL

Four slashes were taken on the 5150 level No. 6 Vein drift west to allow room for diamond drilling. These slashes were not measured, however, 109 one ton cars were mucked out. This is roughly equivalent to 28.5 cubic m. but is probably somewhat less.



$\frac{0.002, 1.98, 0.96, 1.68}{1}$

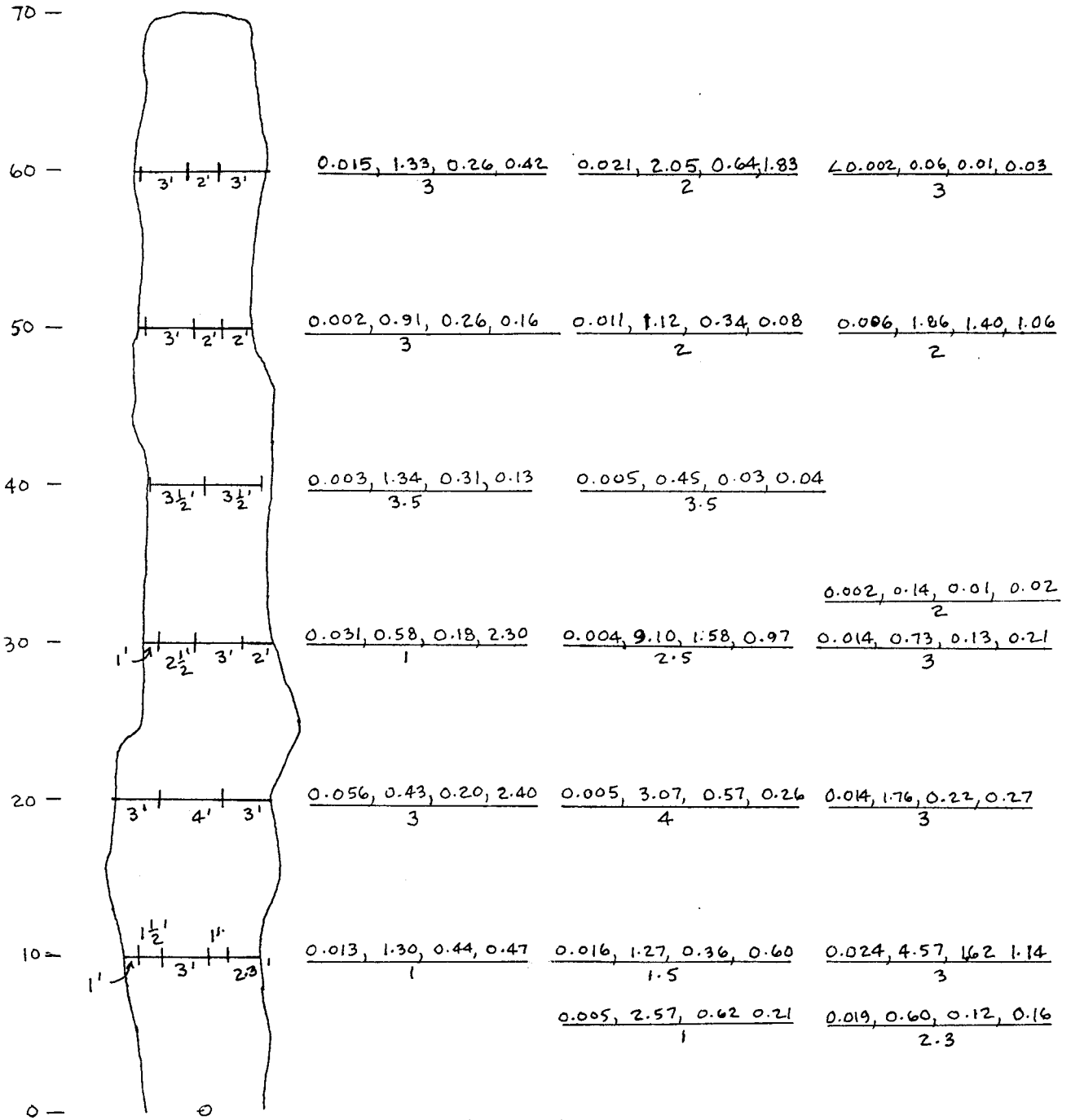
$\frac{0.002, 0.65, 0.30, 0.45}{2}$

$\frac{0.005, 2.32, 0.41, 0.06}{2.5}$

$\frac{0.004, 2.04, 0.98, 1.24}{2.5}$

$\frac{0.002, 0.37, 0.18, 0.23}{1}$

FACE



$O = \Delta 20 + 104'$

SCALE: 1" = 10'

AU OZ/T, AGOZ/T, PB%, ZN%
SAMPLE WIDTH FT.

FIG. 9

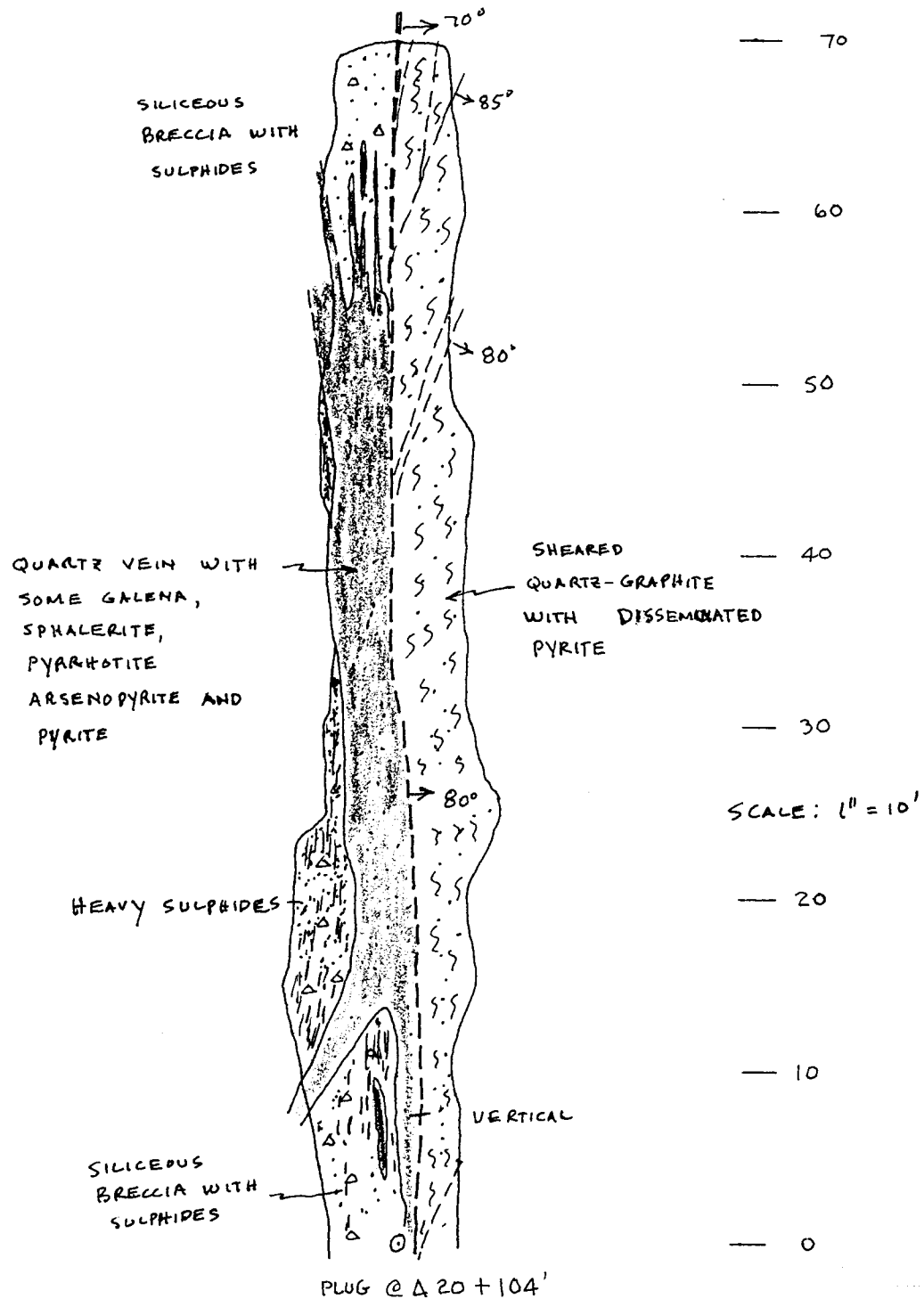
SAMPLE PLAN

NO. 4 VEIN 5150 LEVEL

A.M.P. EXPLORATIONS & MINING CO. LTD.

OCT. 22/86
D.C.M.

FIG. 10



A.M.P. EXPLORATIONS
& MINING CO. LTD.

5150 L. NO. 4 VEIN DRIFT W.

OCT. 22, 1986

D. C. M.

CERTIFICATE

I, David C. Miller, of 769 Fraser Street, Kamloops, B.C. V2C 3H1, hereby certify that:

- (1) I am a registered member of the Association of Professional Engineers of British Columbia - No. 6338
- (2) I am a graduate of the University of British Columbia and received a B.A. Sc. in Geological Engineering in 1959.
- (3) I have practiced my profession continuously since that time and have had 9 years experience as an underground mine geologist including employment with Eldorado Nuclear and Cominco Ltd. and have had 18 years experience in surface exploration as both an employee and a consultant. Most of my experience has been in British Columbia and the Yukon.
- (4) I have no interest in the subject property nor do I own any shares of A. M. P. Exploration and Mining Co. Ltd.
- (5) This report is based on personal work at the property as a consultant and a study of previous data on the property.

D. C. Miller

D. C. Miller, P. Eng.

December 3, 1986



REFERENCES

- Abbott, G. 1981, Geology of Seagull Tin District, in Yukon Geology and Exploration p.p. 32 - 44, Indian and Northern Affairs Canada.
- Cathro, R. J. 1974, Recommended Exploration, Logjam Property, Yukon, Engineering Report for Darva Resources and Development Ltd.
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The Logtung Large Tonnage, Low-Grade W - Mo Porphyry Deposit, South-Central Yukon Territory, in Economic Geology, Vol. 79, p.p. 848 - 868.
- Phendler, R. W., 1984, Report on the Logjam Silver Property, Watson Lake Mining Division, Yukon Territory, Engineering Report for A. M. P. Explorations and Mining Co. Ltd.
- Yen, W. T., 1980, An Investigation of the Recovery of Lead, Zinc, Gold and Silver from a sample submitted by Derry, Michener and Booth, Progress Report No. 1.

NAMES AND ADDRESSES OF EMPLOYEES AND CONTRACTORS

AND TIME EMPLOYED IN PREPARING REPORT.

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| Robert La Croix, | 104 - 404 Lowe Street, Whitehorse, Yukon |
| Norman Adamson, | General Delivery, Whitehorse, Yukon |
| Sam Franks, | P. O. Box 4501, Whitehorse, Yukon |
| Hans Biersted, | 12 Rosewood Place, Whitehorse, Yukon |
| Peter Hildebrand, | 14 Redwood Street, Whitehorse, Yukon |
| Derek Whyte, | c/o 11 Prospector Road, Whitehorse, Yukon |

Fifteen days were spent preparing this report including all figures and reproduction.



LEGEND

- == ROAD
- - - CREEK
- - - TRENCH
- - - VEIN
- ■ ■ ■ ■ FLOAT
- △ SURVEY PIN
- 1.5 63, 175 SILVER, LEAD & ZINC (PPM)
- 3.0-5.9 PPM SILVER
- 6.0-8.9 " "
- 9.0-15.0 " "
- GREATER THAN 15.0 " "

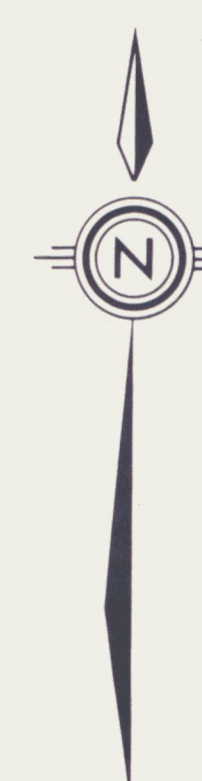
0 100 200
METRES
092160

D.C. MILLER GEOLOGICAL SERVICES, KAMLOOPS, B.C.
A.M.P. EXPLORATIONS & MINING COMPANY LTD.
LOGJAM PROPERTY

SOIL GEOCHEMISTRY
PPM SILVER, LEAD & ZINC

DRAWN BY: D.C.M. PROJECT NO. 8610 FIGURE NO. 11
SEPT. 1986 REPORT DATE: DEC. 3, 1986 NTS 105B/4E

TO ACCOMPANY A REPORT BY D.C. MILLER



CAMP LOCATION

Δ²

ANALYSES SUMMARY

| SAMPLE NO | OUNCES/TON | % | % | % | FT. | |
|------------|------------|--------|------|------|----------|-----------------------------|
| SAMPLE NO | GOLD | SILVER | LEAD | ZINC | TUNGSTEN | WIDTH |
| 86-1, 86-2 | 0.052 | 10.06 | 6.19 | 0.11 | 0.02 | 4.17 |
| 2976 | 0.007 | 4.05 | 2.27 | 1.02 | 0.03 | 2.00 |
| 2977 | 0.055 | 7.99 | 2.15 | 0.07 | 0.03 | FLOAT |
| 2978 | 0.04 | 16.39 | 5.00 | 0.02 | 0.01 | 1.0 |
| 2981 | 0.002 | 19.11 | 2.73 | 0.05 | — | FLOAT |
| 2982 | 0.042 | 3.51 | 1.04 | 3.58 | — | FLOAT |
| 2986 | 0.020 | 14.36 | 2.82 | 0.04 | — | FLOAT |
| 2987 | 0.006 | 4.20 | 2.23 | 0.96 | — | GRAB |
| 2988 | 0.004 | 4.25 | 0.67 | 0.49 | — | 0.17 |
| 2990-94 | 0.002 | 2.00 | 1.32 | 0.42 | — | 9.50 |
| 2995 | 0.007 | 3.73 | 2.15 | 1.34 | — | 4.50 |
| 2996 | 0.086 | 18.2 | 0.79 | 0.53 | — | 2.00 |
| 2997 | 0.072 | 6.57 | 2.55 | 2.86 | — | 1.00 |
| 2998 | 0.056 | 0.76 | 0.19 | 0.18 | — | 3.00 |
| (2983-84) | 0.167 | 2.76 | 1.85 | 0.50 | 0.02 | 5.40 (LOCATED SOUTH OF MAP) |

ROCK GEOCHEM

| SAMPLE NO | GOLD | SILVER | LEAD | ZINC | TUNGSTEN |
|-----------|------|--------|------|------|----------|
| SAMPLE NO | PPB | PPM | PPM | PPM | PPM |
| 2979 | 10 | 5.8 | — | — | 3 |
| 2980 | < 5 | 16.0 | — | — | 3 |
| 2989 | — | 2.8 | 151 | 145 | — |
| 2990 | — | 1.6 | 58 | 80 | — |
| 2991 | — | 2.6 | 118 | 52 | — |

LEGEND

- ROAD
- CREEK
- TRENCH
- VEIN
- FLOAT
- SURVEY PIN
- OUTCROP
- GEOLOGICAL BOUNDARY
- BEDDING (INCLINED, VERTICAL)
- CLEAVAGE/JOINTING (INCLINED, VERTICAL)
- ROCK SAMPLE LOCATION
- PYRITE/RUSTY STAINING

- 10 FELSIC, PYRITIC DYKES
- 9 FELDSPAR/ HORNBLende PORPHYRY DYKES AND SMALL INTRUSIONS
- 8 INTERMEDIATE TO MAFIC DYKES
- 7 LEUCOCRATIC INTRUSIVE
- 6 DIORITE, MEDIUM GREY, FINE GRAINED
- 5 QUARTZITE, ARGILLACEOUS QUARTZITE, BIOTITE HORNFELS
- 4 LIMESTONE, VARIABLY SILICIFIED, MAINLY LIGHT GREY
- 3 SLATE AND PHYLLITE, DARK GREY, RECESSIVE
- 2 SHALE, BRWN-GREY, THIN-BEDDED, LOCALLY SILICIFIED AND PYRITIZED 2a- SIMILAR, BUT WITH SLATEY CLEAVAGE AND DISTURBED BEDDING
- 1 SHEARED IMPURE LIMESTONE, SLATE AND QUARTZITE

0 100 200 METRES

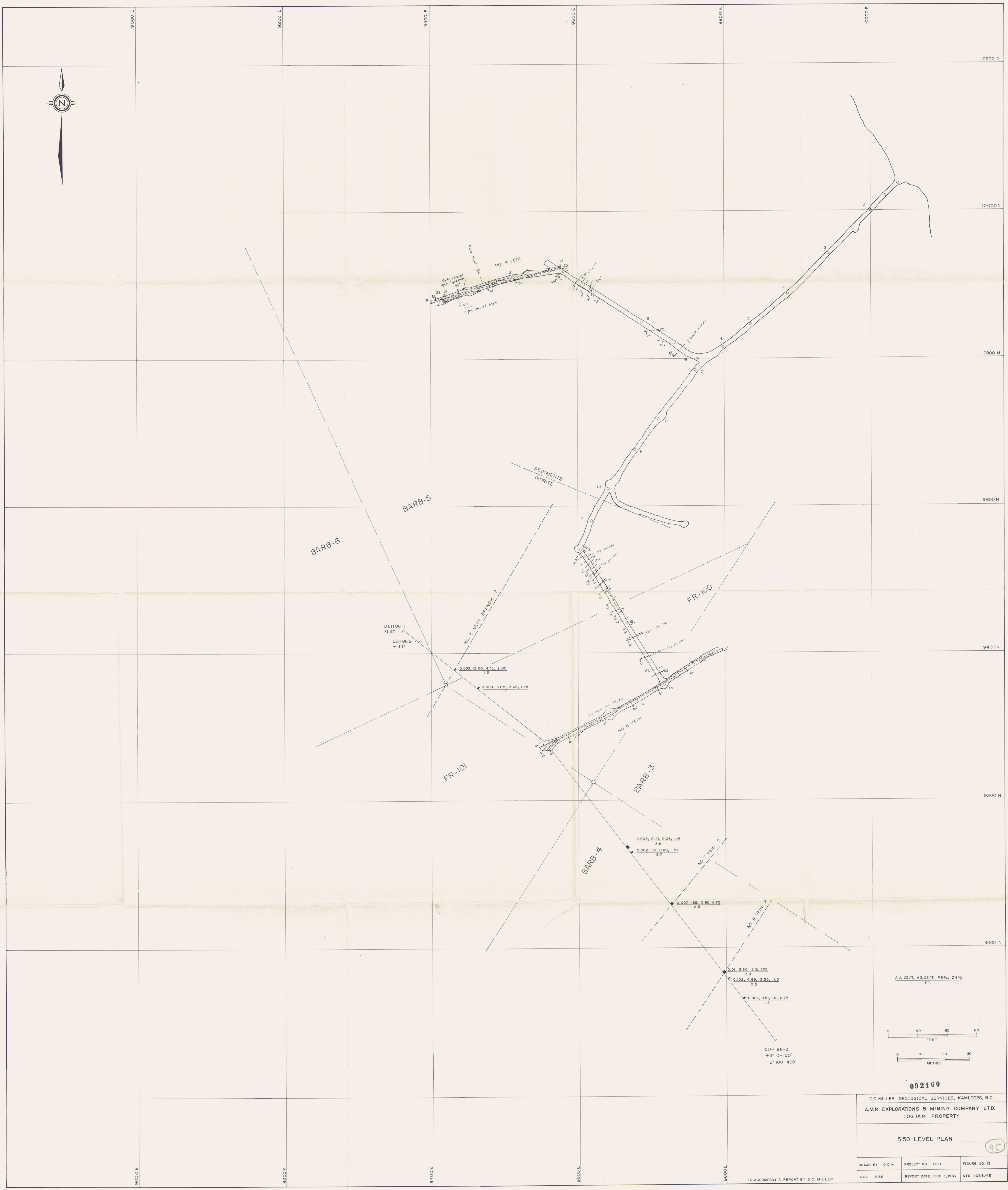
092160

D.C. MILLER GEOLOGICAL SERVICES, KAMLOOPS, B.C.
A.M.P. EXPLORATIONS & MINING COMPANY LTD.
LOGJAM PROPERTY

GEOLOGY AND ROCK SAMPLE LOCATION

DRAWN BY: D.C.M. PROJECT NO. 8610 FIGURE NO. 12
SEPT. 1986 REPORT DATE: DEC. 3, 1986 NTS 105B/4E

TO ACCOMPANY A REPORT BY D.C. MILLER



BARB-6

BARB-5

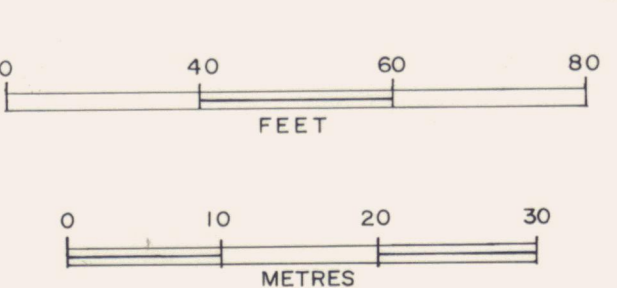
FR-101

FR-100

BARB-4

BARB-3

AU, OZ/T, AG, OZ/T, PB%, ZN%



092160

| | | |
|--|---------------------------|---------------|
| D.C. MILLER GEOLOGICAL SERVICES, KAMLOOPS, B.C. | | |
| A.M.P. EXPLORATIONS & MINING COMPANY LTD. LOGJAM PROPERTY | | |
| 5150 LEVEL PLAN | | |
| DRAWN BY: D.C.M. | PROJECT NO. 860 | FIGURE NO. 13 |
| NOV. 1986 | REPORT DATE: DEC. 3, 1986 | NTS 1058/4E |

TO ACCOMPANY A REPORT BY D.C. MILLER



REPORT: 426-5851

PROJECT: NONE GIVEN

PAGE 2

| SAMPLE NUMBER | ELEMENT UNITS | AU OPT | AG OPT | PB PCT | ZN PCT | BI PCT | AS PCT | W PCT | SN PCT |
|-------------------|---------------|--------|--------|--------|--------|--------|--------|-------|--------|
| R2 2929 | | 0.004 | 2.04 | 0.98 | 1.24 | | | | |
| R2 2930 | | 0.005 | 2.32 | 0.41 | 0.06 | | | | |
| R2 2931 | | <0.002 | 0.06 | 0.01 | 0.03 | | | | |
| R2 2932 | | 0.021 | 2.05 | 0.64 | 1.83 | | | | |
| R2 2933 | | 0.015 | 1.33 | 0.26 | 0.42 | | | | |
| R2 2934 | | 0.006 | 1.86 | 1.40 | 1.06 | | | | |
| R2 2935 | | 0.011 | 1.12 | 0.34 | 0.08 | | | | |
| R2 2936 | | 0.002 | 0.91 | 0.26 | 0.16 | | | | |
| R2 2937 | | 0.005 | 0.45 | 0.03 | 0.04 | | | | |
| R2 2938 | | 0.003 | 1.34 | 0.31 | 0.13 | | | | |
| R2 2939 | | 0.002 | 0.14 | 0.01 | 0.02 | | | | |
| R2 2940 | | 0.014 | 0.73 | 0.13 | 0.21 | | | | |
| R2 2941 | | 0.004 | 9.10 | 1.58 | 0.97 | | | | |
| R2 2942 | | 0.031 | 0.58 | 0.18 | 2.30 | | | | |
| R2 2943 | | 0.014 | 1.76 | 0.22 | 0.27 | | | | |
| R2 2944 | | 0.005 | 3.07 | 0.57 | 0.26 | | | | |
| R2 2945 | | 0.056 | 0.43 | 0.20 | 2.40 | | | | |
| R2 2946 | | 0.019 | 0.60 | 0.12 | 0.16 | | | | |
| R2 2947 | | 0.005 | 2.57 | 0.62 | 0.21 | | | | |
| R2 2948 | | 0.024 | 4.57 | 1.62 | 1.14 | | | | |
| R2 2949 | | 0.016 | 1.27 | 0.36 | 0.60 | | | | |
| R2 2950 | | 0.013 | 1.30 | 0.44 | 0.47 | | | | |
| R2 MUCK COMPOSITE | | 0.013 | 2.25 | 0.48 | 0.56 | 0.02 | 1.45 | 0.02 | <0.01 |

092160



REPORT: 426-5651

PROJECT: NONE GIVEN

PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | AU OPT | AG OPT | PB PCT | ZN PCT | BI PCT | AS PCT | W PCT | SN PCT |
|---------------|---------------|--------|--------|--------|--------|--------|--------|-------|--------|
| R2 2826 | | 0.009 | 3.65 | 3.05 | 1.45 | | | | |
| R2 2827 | | <0.002 | 0.19 | 0.02 | 0.05 | | | | |
| R2 2828 | | 0.033 | 12.66 | 4.75 | 2.60 | | | | |
| R2 2829 | | <0.002 | 0.05 | 0.04 | <0.01 | | | | |
| R2 2830 | | <0.002 | 0.09 | 0.06 | <0.01 | | | | |
| R2 2831 | | 0.010 | 3.30 | 1.12 | 1.00 | | | | |
| R2 2832 | | <0.002 | 0.18 | 0.06 | 0.06 | | | | |
| R2 2833 | | 0.102 | 4.89 | 3.55 | 11.00 | | | | |
| R2 2834 | | <0.002 | 0.10 | 0.03 | <0.01 | | | | |
| R2 2835 | | 0.002 | 3.51 | 1.61 | 0.75 | | | | |
| R2 2836 | | <0.002 | 0.14 | 0.08 | 0.04 | | | | |
| R2 2837 | | 0.011 | 0.27 | 0.16 | 0.33 | | | | |
| R2 2851 | | <0.002 | 0.82 | 0.48 | 0.47 | | | | |
| R2 2852 | | 0.002 | 0.16 | 0.06 | 0.10 | | | | |
| R2 2853 | | <0.002 | 0.19 | 0.10 | 0.08 | | | | |
| R2 2854 | | 0.005 | 1.62 | 0.64 | 0.40 | | | | |
| R2 2855 | | 0.003 | 0.41 | 0.22 | 0.30 | | | | |
| R2 2856 | | 0.009 | 0.92 | 0.42 | 0.64 | | | | |
| R2 2857 | | <0.002 | 0.02 | <0.01 | <0.01 | | | | |
| R2 2858 | | 0.004 | 0.11 | 0.01 | <0.01 | | | | |
| R2 2859 | | 0.005 | 0.21 | 0.06 | 1.46 | | | | |
| R2 2860 | | <0.002 | 0.07 | <0.01 | <0.01 | | | | |
| R2 2861 | | 0.002 | 0.09 | 0.02 | <0.01 | | | | |
| R2 2862 | | 0.002 | 0.09 | 0.01 | <0.01 | | | | |
| R2 2863 | | 0.002 | 1.31 | 0.88 | 1.97 | | | | |
| R2 2864 | | <0.002 | 0.06 | <0.01 | <0.01 | | | | |
| R2 2865 | | 0.007 | 1.63 | 0.60 | 0.75 | | | | |
| R2 2866 | | <0.002 | 0.08 | 0.02 | <0.01 | | | | |
| R2 2867 | | 0.002 | 0.07 | 0.01 | <0.01 | | | | |
| R2 2868 | | <0.002 | 0.03 | 0.05 | <0.01 | | | | |
| R2 2869 | | 0.004 | 0.48 | 0.17 | 0.30 | | | | |
| R2 2870 | | 0.005 | 0.04 | <0.01 | <0.01 | | | | |
| R2 2871 | | <0.002 | 0.15 | 0.02 | 0.01 | | | | |
| R2 2872 | | 0.053 | 6.78 | 1.20 | 8.30 | | | | |
| R2 2873 | | 0.005 | 0.06 | <0.01 | 0.01 | | | | |
| R2 2874 | | <0.002 | 0.03 | 0.02 | 0.01 | | | | |
| R2 2875 | | <0.002 | 0.03 | <0.01 | <0.01 | | | | |
| R2 2926 | | <0.002 | 0.65 | 0.30 | 0.45 | | | | |
| R2 2927 | | <0.002 | 1.98 | 0.96 | 1.68 | | | | |
| R2 2928 | | <0.002 | 0.37 | 0.18 | 0.23 | | | | |

092160

091880

INVOICE TO: AMP EXPLORATION & MINING

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ASSAY PREP 63
OVERWEIGHT SAMPLE/LB 100

63

2 -150

63

R ROCK OR BED ROCK

SAMPLE PREPARATIONS NUMBER

NUMBER

SIZE FRACTIONS

NUMBER

SAMPLE TYPES

0.01 PCT

1

8 SN TIN

0.01 PCT

1

7 W WILMINGTON

0.01 PCT

1

6 AS ARGENTIC

0.01 PCT

1

5 BI BISMUTH

0.01 PCT

63

4 ZN ZINC

0.01 PCT

63

3 PB LEAD

0.01 OPT

63

2 AS SILVER

0.001 OPT

63

1 AU GOLD - FIRE ASSAY

METHOD

EXTRACTION

DETECTION LIMIT

ANALYSES

ELEMENT

ORDER

LOWER

NUMBER OF

DATE PRINTED: 9-NOV-84

SUBMITTED BY: UNKNOWN

PROJECT: MINE BLANK

CLIENT: AMP EXPLORATION & MINING CO. LTD.

REFERENCE INFO:

REPORT: 426-5851 (COMPLETE)



Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Fax: 04-352667



BONDAR-CLEGG

**Geochemical
Lab Report**

REPORT: 126-5851

PROJECT: NONE GIVEN

PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Pb PPM | Zn PPM | Ag PPM | Au PPB |
|------------------|------------------|-----------|-----------|-----------|-----------|
| R2 2838 | | 120 | 125 | 13.0 | 5000 |
| R2 2839 | | 19 | 40 | 0.5 | 15 |



REPORT: 126-5851 (COMPLETE)

REFERENCE INFO: WHSE 46-405

CLIENT: AMP EXPLORATION & MINING CO. LTD.
 PROJECT: NONE GIVEN

SUBMITTED BY: UNKNOWN
 DATE PRINTED: 31-OCT-86

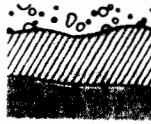
| ORDER | ELEMENT | NUMBER OF ANALYSES | LOWER DETECTION LIMIT | EXTRACTION | METHOD |
|-------|----------------------|--------------------|-----------------------|-------------------|-------------------|
| 1 | Pb Lead | 2 | 2 PPM | HNO3-HCL HOT EXTR | Atomic Absorption |
| 2 | Zn Zinc | 2 | 1 PPM | HNO3-HCL HOT EXTR | Atomic Absorption |
| 3 | Ag Silver | 2 | 0.2 PPM | HNO3-HCL HOT EXTR | Atomic Absorption |
| 4 | Au Gold - Fire Assay | 2 | 5 PPB | FIRE-ASSAY | Fire Assay AA |

| SAMPLE TYPES | NUMBER | SIZE FRACTIONS | NUMBER | SAMPLE PREPARATIONS | NUMBER |
|--------------------|--------|----------------|--------|----------------------|--------|
| 9 ROCK OR BED ROCK | 2 | 2 -150 | 2 | CRUSH,PULVERIZE -150 | 2 |

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**Geochemical
Lab Report**

AMP EXPLORATION & MINING CO. LTD.
136 INDUSTRIAL RD.
WHITEMORSE Y.T.
Y1A 2V1

+ + + + +

092160

| | | | | | | | |
|------------------------------|--------------------------------|-------------------|-----------------------------------|---------------------|--|--|-------------------------|
| PROPERTY A.M.P. LOGJAM | TP OR AREA S150 LEVEL No 6 | AZIMUTH 308° | DATE STARTED SEPT. 8, 1986 | CORRECTED DIP TESTS | | | LOCATION SKETCH OF HOLE |
| PROJECT | LOT 6 CONC. VEIN DRIFT WEST | DIP FLAT | DATE COMPLETED SEPT 20, 1986 | | | | |
| CLAIM NO. 100 FRACTION | CO-ORDINATES. | LENGTH 243 FT. | DRILLED BY A.M.P. EXPLORATIONS | | | | |
| GRID NO. | | COLLAR ELEV. | LOGGED BY D.C. MILLER | | | | |

| FOOTAGE | | SECTION | DESCRIPTION | SAMPLE NO. | | | ASSAYS | | | | |
|---------|-------|---------|---|------------|----|--------|--------|--|--|--|--|
| FROM | TO | 1" = | | FROM | TO | LENGTH | | | | | |
| 0 | 116.7 | | <p><u>DIORITE AND HYBRID ROCK.</u></p> <p>Medium to light grey, fine grained, moderately hard, non-magnetic except near pyrrhotite mineralization; reacts weakly to HCl along very fine fractures and occasional larger calcite healed fractures; good core in pieces to 2'; minor pyrrhotite with traces of chalcopyrite.</p> <p>(1.1 - 1.4) - Fine pyrrhotite-quartz veining @ 50°.</p> <p>(6.5 - 8.5) - Prominent m.g. secondary brown biotite-anhydral crystals.</p> <p>(10.5 - 10.8) - quartz with irregular blocks of pyrrhotite to 1/4"</p> <p>(14.3 - 16.3) - Broken core with brecciation and several fine fractures @ 50-70°.</p> <p>(20.5 - 26.0) - Quartz - pyrrhotite - feldspar stringers.</p> <p>(35.7 - 35.9) - minor fine galena-sphalerite with 1/16" quartz vein @ 40°.</p> <p>Pale white-grey, very fine-grained calcareous inclusions @ (38.8 - 39.1) (42.2 - 43.0) and (44.2 - 44.4).</p> <p>(0 - 35) - contains prominent secondary biotite as m.g. anhydral crystals.</p> <p>Broken core @ (0 - 1.0), in 1-2" pieces, 70-80° breaks. " " (14-16) " " " 40-80° " "</p> <p>Core recovery: (0 - 6) - 85%; (6 - 47) 99%.</p> | | | | | | | | |

092160

| FOOTAGE | | SECTION " = | DESCRIPTION | SAMPLE NO. | FROM | TO | LENGTH | ASSAYS | | | | |
|---------|-------|----------------|---|------------|------|----|--------|--------|--|--|--|--|
| FROM | TO | | | | | | | | | | | |
| 0 | 116.7 | | CONT'D (47.0 - 51.5) ≈ 10% subrounded fragments of fine grained pale grey, altered, preintrusive rock. (51.5 - 56.5) Xenolith showing fine banding @ 20-30° with 15% fine brown biotite parallel to banding. (50.2') - 1/8" calcite healed fracture @ 70°. (64.0 - 68.4) - as (47.0 - 51.5). (62.7) - 1/16" qtz. healed fracture @ 60°. (65.0 - 65.6) Broken core 2-4" pieces with calcite healed fine fractures @ 60° - chlorite healed fracture @ 20° - minor (2%) pyrrhotite - pyrite mineralization. (68.1) - 1/8" calcite healed fracture @ 70°. 69.3 PITTO. (68.3 - 69.7) Pale grey fine grained calcareous inclusions and pale grey f.g. diorite breccia. 69.2 - 71.9 - Mottled grey diorite hybrid with 40% rounded inclusions of fine-grained siliceous preintrusive sediment with vague indistinct boundaries. (71.9 - 73.9) white-grey calcareous inclusion finely banded @ 55°; pitted leached broken core @ (73.4 - 73.9), fractures @ 20-90°. (73.9 - 95.0) Diorite hybrid with 30% inclusions of siliceous fine grained altered sediment; minor fine-grained - med. grained disseminated pyrrhotite; broken and ground core @ (76.0 - 77.5) & (87.0 - 87.5) occasional fine 1/16" or less white-qtz. calcite healed fractures. Core summary (47.0 - 95.0) - Generally excellent core in pieces to 2 ft and 99% recovery except where noted in the preceding | | | | | | | | | |

092160

| FOOTAGE | | SECTION 1" = | DESCRIPTION | NOTE: < = LESS THAN | | | | ASSAYS | | | | | |
|---------|-------|-----------------|---|---------------------|-------|-------|--------|--------|-------|-------|-------|--|--|
| FROM | TO | | | SAMPLE NO. | FROM | TO | LENGTH | AU | Ag | Pb% | Zn% | | |
| 0 | 116.7 | Cont'd | (95.0 - 96.7) - as (73.9 - 95.0), broken, ground core @ 95.0 - 95.5. | | | | | | | | | | |
| | | | (96.7 - 103.0) - Pale grey, very fine grained hybrid rock with 10% pyrrhotite mineralization and minor pyrite, galena and sphalerite particularly @ (102.0 - 102.3). | 2874 | 96.7 | 103.0 | 6.3 | <0.002 | 0.03 | 0.02 | 0.01 | | |
| | | | (103.0 - 114.7) Diorite hybrid with 15% irregular rounded inclusions of fine grained pale grey sediment, minor disseminated pyrrhotite. | | | | | | | | | | |
| | | | (114.7 - 115.0) Pale grey fine-grained, as (96.7 - 103) with 5% pyrrhotite disseminated & in fine discontinuous veinlets. | | | | | | | | | | |
| | | | (115.0 - 116.7) Vein zone with pyrrhotite-galena-sphalerite-pyrite mineralization in quartz-calcite gangue; best at (115.0 - 115.2); core in 1-2" pieces with 60° breaks. | 2875 | 113.7 | 115.0 | 1.3 | <0.002 | 0.03 | <0.01 | <0.01 | | |
| | | | | 2826 | 115.0 | 116.7 | 1.7 | 0.009 | 3.65 | 3.05 | 1.45 | | |
| 116.7 | 155.0 | | <u>DIORITE</u> Dark grey-green, fine-grained granular texture, fairly uniform appearance, moderately hard, minor disseminated pyrrhotite mineralization (< less than 1%); good core in pieces to 2 1/2 ft. | | | | | | | | | | |
| | | | (116.7 - 124.0) Fine-grained gradational from preceding hybrid rock. | | | | | | | | | | |
| | | | (116.7 - 155.0) Occasional white quartz-calcite vein from 1/4" - 1/2" @ 45 - 80° less than one per 5'. | | | | | | | | | | |
| | | | (154.3 - 155.0) - Fine-grained with minor pyrrhotite. | 2827 | 154.3 | 155.0 | 0.7 | <0.002 | 0.19 | 0.02 | 0.05 | | |
| 155.0 | 156.3 | | <u>Vein Zone</u> Pyrrhotite-galena-sphalerite-arsenopyrite-pyrite in a grey quartz-calcite matrix; mineralization is roughly banded @ 70°; good core. | 2828 | 155.0 | 156.3 | 1.3 | 0.033 | 12.66 | 4.75 | 2.60 | | |

092100

| FOOTAGE | | SECTION " = | DESCRIPTION | NOTE < = LESS THAN | | | | ASSAYS | | | |
|-------------|-------|----------------|---|--------------------|-------|-------|--------|--------|------|------|------|
| FROM | TO | | | SAMPLE NO. | FROM | TO | LENGTH | AV | Ag | Pb % | Zn % |
| 156.3 | 214.0 | | <u>DIORITE</u> - as (116.7-155.0) - 99% core recovery (156.3-172.0) Excellent core in pieces to 2 1/2'. (172.0-214.0) More broken in 2"-1' pieces; more quartz-calcite veins - about 1 per foot @ 40-70° mainly 1/16"-1/8" thick; occasional 1/16"-1/8" pyrrhotite healed fracture @ 16-80°. | | | | | | | | |
| 214.0 | 217.5 | | <u>Altered Zone</u> Pale grey - medium grey, leached pitted broken core with several gray quartz veins trending @ 30-50°; minor pyrrhotite-sphalerite-galena mineralization; 85% core recovery. | 2829 | 214.0 | 217.5 | 3.5 | 0.002 | 0.05 | 0.04 | 0.01 |
| 217.5 | 243.0 | | <u>Diorite</u> Similar to 116.7-155.0 but has weak banded structure @ 65° consisting of quartz & quartz-pyrrhotite ^{galena} remaining from 1/16" to 1/8", good core; 99% core recovery. 220.7 = 1/16" galena healed fracture @ 70°. (232.0-243.0) Banded structure weaker. (219.5-220.5) Minor scheelite mineralization. | 2830 | 217.5 | 222.5 | 5.0 | 0.002 | 0.09 | 0.06 | 0.01 |
| END OF HOLE | | | | | | | | | | | |

092160

| | | | | | | | | |
|------------------------------|--------------------------------|-------------------|-----------------------------------|---------------------|--|--|--|--|
| PROPERTY A.M.P. LOGJAM | TP OR AREA 5150 LEVEL NO 6 | AZIMUTH 308° | DATE STARTED SEPT. 22, 1986 | CORRECTED DIP TESTS | | | | LOCATION SKETCH OF HOLE L = LESS THAN |
| PROJECT | LOT & CONC. VEIN DRIFT WEST | DIP +44° | DATE COMPLETED OCT. 4, 1986 | | | | | |
| CLAIM NO. 106 FRACTION | CO-ORDINATES. | LENGTH 304 FT. | DRILLED BY A.M.P. EXPLORATIONS | | | | | |
| GRID NO. | | COLLAR ELEV. | LOGGED BY D.C. MILLER | | | | | |

| FOOTAGE | | SECTION 1" = | DESCRIPTION | SAMPLE NO. | | | | ASSAYS | | | |
|---------|-------|-----------------|--|------------|------|------|--------|--------|------|-------|-------|
| FROM | TO | | | SAMPLE NO. | FROM | TO | LENGTH | OZ/TON | | % | |
| | | | | | | | | AU | Ag | Pb | Zn |
| 0 | 114.0 | | <u>DIORITE - HYBRID ROCK</u> Medium grey, fine grained, moderately hard; fine-grained granular to ophanitic texture; has an uneven appearance because of variable grain size and color; contains about 2% pyrrhotite as disseminated grains and along fine fractures with minor pyrite, chalcopyrite and sphalerite; pyrrhotite is strongly magnetic. | | | | | | | | |
| | | | (0-45.0) Good core, 99% recovery, occasional white quartz-calcite vein @ 15-60' from 1/2" - 1" width. 16 2 | | | | | | | | |
| | | | (0-1.5) Pyrrhotite ~5% associated with closely spaced fractures @ 30' - possible dark sphalerite, broken core. | 2866 | 0 | 1.5 | 1.5 | 20.002 | 0.08 | 0.02 | 20.01 |
| | | | (4.9-5.5) pyrrhotite ~15% in discontinuous veinlets. | 2867 | 4.9 | 5.5 | 0.6 | 0.002 | 0.07 | 0.01 | 20.01 |
| | | | (12.9-15.0) pyrrhotite 5% ± sphalerite with white quartz-feldspar veining. | 2868 | 12.9 | 15.0 | 2.1 | 20.002 | 0.03 | 0.05 | 20.01 |
| | | | (17.0-19.0) pyrrhotite ~15% with minor sphalerite associated with 30-45° fractures, broken core. | 2869 | 17.0 | 19.0 | 2.0 | 0.004 | 0.48 | 0.17 | 0.30 |
| | | | (0-55) local sections with med. grained anhedral secondary biotite. | | | | | | | | |
| | | | (60.5-91.0) Prominent pale grey quartz-feldspar veining and alteration | | | | | | | | |
| | | | 10% pyrrhotite with minor sphalerite and local calcite alteration @ (65.5-66.6) (67.7-68.3) & (70.5-71.3 (as disseminations of fine veins). | 2870 | 65.5 | 71.3 | 5.8 | 0.005 | 0.04 | 20.01 | 20.01 |
| | | | (65.0-71.3) Pale med-grey calcareous. | | | | | | | | |
| | | | (45-92) - good core - 95% recovery. | | | | | | | | |

09 2160

| FOOTAGE | | SECTION # | DESCRIPTION | SAMPLE NO. | FROM | TO | LENGTH | ASSAYS | | | | FO | |
|---------|-------|--------------|---|------------|------|----|--------|--------|--|--|--|----|--|
| FROM | TO | | | | | | | | | | | | |
| 0 | 114.0 | | CONTD | | | | | | | | | | |
| | | | (92.2) - pyrrhotite with 1/2" quartz-calcite healed fracture @ 30° | | | | | | | | | | |
| | | | (93.0) - pyrrhotite " " " healed fracture @ 50° | | | | | | | | | | |
| | | | (97.0) - Graphite & calcite healed fracture 1/2" @ 70°. | | | | | | | | | | |
| | | | (96.5-98.9) - minor pyrrhotite pyrite and sphalerite associated with quartz-calcite healed fractures @ 20-70°. | | | | | | | | | | |
| | | | (102.3-104.5) - Broken core associated with several quartz-calcite healed fractures to 1/2" width @ 10-40°. | | | | | | | | | | |
| | | | (106.0-106.3), (107.5-108.0) & (111.5-113.0) minor pyrrhotite associated with several fine fractures @ 30-40°. | | | | | | | | | | |
| 114.0 | 225.0 | | <u>DIORITE & HYBRID ROCK</u> | | | | | | | | | | |
| | | | similar to preceding, medium grey green mainly very fine grained. | | | | | | | | | | |
| | | | (119.0) - minor pyrrhotite with 1/16" fracture @ 10°. | | | | | | | | | | |
| | | | (120.5-121.0) - pyrrhotite + sphalerite and chalcoprite with 1/8" quartz-calcite healed fractures | | | | | | | | | | |
| | | | (125.0-139.0) Occasional quartz-calcite healed fractures to 1/2" size @ 30-60°. | | | | | | | | | | |
| | | | Core Recovery 99% @ (92.0 - 133.5). 85% @ (133.5 - 139.0). | | | | | | | | | | |
| | | | (139.0 - 187.0) - Generally blocky and broken core. | | | | | | | | | | |
| | | | (146.0 - 150.0) - Core broken into 1-4" pieces; associated with several quartz-calcite healed fractures @ 20-40°. | | | | | | | | | | |

092100

| FOOTAGE | | SECTION F# | DESCRIPTION | SAMPLE NO. | FROM | TO | LENGTH | ASSAYS | | | |
|---------|-------|---------------|---|------------|------|----|--------|--------|--|--|--|
| FROM | TO | | | | | | | | | | |
| 114.0 | 225.0 | | <p>CONTD</p> <p>(151.0 - 152.0) Broken core associated with several 1" quartz healed fractures @ 45°, bleached pale¹⁶ green gray.</p> <p>Minor pyrrhotite with fine fractures @ various angles @ (153.8 - 155.0), (157.5 - 157.8) and (159.5 - 159.6).</p> <p>(159.5 - 167.7) Bleached green gray; associated with several fractures and small quartz veins @ 10-50°; pyrrhotite @ (166.5 - 166.7) in fine 40° fractures.</p> <p>(164.2) - 1" quartz-calcite vein @ 25° with minor pyrrhotite - sphalerite.</p> <p>(167.5) - 1" quartz-calcite vein @ 10° " " pyrrhotite - sphalerite.</p> <p>(175 - 180.3) - Broken core associated with several fractures and fine quartz veins @ 20-70°.</p> <p>Minor pyrrhotite disseminated & associated with fine fractures @ (173.8 - 174.0), (180.0 - 180.2) & (183 - 184.5).</p> <p>(184.5 - 185.1) - Quartz-calcite vein @ 40-70° with traces of pyrrhotite.</p> <p>(139.0 - 187.0) part fractures trend @ 30-50° and average more than 1 per foot.</p> <p>Core Recovery: (139.0 - 143.0) - 99%; (143.0 - 148.0) - 66%; (148.0 - 150.0) - 90%; (150.0 - 170.5) - 99%; (170.5 - 180) - 95%; (180.0 - 187.0) - 99%; (187.0 - 190.5) - 77%; (190.5 - 199.0) - 87%; (199 - 209) - 95%; (209 - 224) - 90%; (224 - 236) - 95%.</p> | | | | | | | | |

092160

| | | | | | | | |
|---------------------------|--------------------------------------|---------------------|-----------------------------------|---------------------|--|--|--|
| PROPERTY A.M.P. | TP OR AREA 5150 LEVEL | AZIMUTH 142° | DATE STARTED OCT. 6/86 | CORRECTED DIP TESTS | | | LOCATION SKETCH OF HOLE L = LESS THAN |
| PROJECT | LOT & CONC. NO. 6 VEIN DRIFT WEST | DIP 75° @ COLLAR | DATE COMPLETED OCT. 23/86 | 200' -2° | | | |
| CLAIM NO. 100 FRACTION | CO-ORDINATES. | LENGTH 498.0 FT. | DRILLED BY A.M.P. EXPLORATIONS | 400' -2° | | | |
| GRID NO. | | COLLAR ELEV. | LOGGED BY D.C. MILLER | | | | |

| FOOTAGE | | SECTION | DESCRIPTION | | | | ASSAYS | | | | |
|---------|-------|---------|---|------------|------|------|--------|-------|------|------|------|
| FROM | TO | 1" = | | SAMPLE NO. | FROM | TO | LENGTH | Au | Ag | Pb % | Zn % |
| 0 | 10.0 | | <p><u>DIORITE</u> Purple grey, fine-med. grained granular texture with prominent anhedral biotite; contains approx. 2% disseminated pyrrhotite and pyrite-pyrrhotite along very fine veinlets @ 20-80° - approximately 1 per ft.; fair core broken in 2-8" pieces; Recovery ≈ 80%. Pyrrhotite is strongly magnetic. (0-0.5) Aphanitic with 10% f.g. pyrrhotite-pyrite.</p> | 2857 | 0 | 0.5 | 0.5 | 0.002 | 0.02 | 0.01 | 0.01 |
| 10.0 | 106.0 | | <p><u>DIORITE HYBRID</u> Medium to dark grey, predominantly f.g. but with variable texture; good core. (10.0-17.5) approx. 2% disseminated of fine veinlets of pyrrhotite.</p> | | | | | | | | |
| | | | <p>(17.5-19.0) Quartz-calcite vein zone with 20% pyrrhotite with pyrite & chalcopyrite.</p> | 2858 | 17.5 | 19.0 | 1.5 | 0.004 | 0.11 | 0.01 | 0.01 |
| | | | <p>(19.0-35.0) Approx. 2% pyrrhotite as dissemination of fine veins with larger (to 3") quartz-calcite veins @ (19.0-23.0).</p> | | | | | | | | |
| | | | <p>(35.0-47.5) Prominent brown to black f.-m.g. anhedral secondary biotite; ≈ 1% pyrrhotite.</p> | | | | | | | | |
| | | | <p>Recovery (10.0-47.0) = 95%</p> | | | | | | | | |

092160

| FOOTAGE | | SECTION " = | DESCRIPTION | SAMPLE NO. | FROM | TO | LENGTH | ASSAYS | | | | |
|---------|-------|----------------|---|------------|------|----|--------|--------|--|--|--|--|
| FROM | TO | | | | | | | | | | | |
| 10.0 | 106.0 | | <p><u>DIORITE - HYBRID</u> <u>CONTD</u></p> <p>(47.5-63.0) - Med. grey-green, f.g-aphanitic, essentially a hornfels; contains minor f.g anhedral feldspar & biotite crystals; approx 2% pyrrhotite as disseminations and along fine quartz healed fractures @ 40-70°, approx. 1 per ft.</p> <p>(63.0-63.8) - Quartz-pyrrhotite vein @ 20° - 2" thick - disseminated pyrrhotite with traces of pyrite and chalcocite.</p> <p>(63.8-67.0) - as 47.5-63.0, good core</p> <p>(67.0-68.2) - pale altered zone with quartz-pyrrhotite @ 0-10° - traces of sphalerite.</p> <p>(68.2-69.1) 90% f.g brown biotite;</p> <p>(69.1-83.0) - as (47.5-63.0), grain size and percentage of phenocrysts increasing; approx. 2% pyrrhotite as fine vein fillings; veins @ 10-20° with bleached edges; good core</p> <p>(83.0-90.0) - prominent biotite (anhedral) phenocrysts approx 1% pyrrhotite with fine quartz veinlets - less than 1 per ft; good core.</p> <p>(90.0-91.0) - light colored granitic stringer @ 0-20°.</p> <p>(91.0-94.0) - as (83.0-90.0).</p> <p>(94.0-95.0) - 75% aplitic stringers (2" size) @ 80°</p> <p>Core Recovery 47-95.0 = 99%</p> | | | | | | | | | |

092160

| FOOTAGE | | SECTION # | DESCRIPTION | | | | ASSAYS | | | | |
|---------|-------|--------------|--|------------|-------|-------|--------|--------|------|------|------|
| FROM | TO | | | SAMPLE NO. | FROM | TO | LENGTH | oz/TON | | % | |
| | | | | | | | Au | Ag | Pb | Zn | |
| | | | <u>DIORITE HYBRID CONT'D</u> | | | | | | | | |
| | | | (95.0-106.0) - Grey, mainly very fine grained, cut by 10% - 1-3" aplitic stringers @ 10-80°, good core; approx. 1% pyrrhotite as fine vein fillings | | | | | | | | |
| 106.0 | 166.2 | | <u>Diorite</u> Dark grey, fine-med. grained granular texture, moderately hard, good core. | | | | | | | | |
| | | | (113.0-117.0) - 10% granitic-aplitic stringers to 3" thick. | | | | | | | | |
| | | | (118.0-138.0) - Heavy fine-grained disseminated pyrrhotite - approx 6%. | | | | | | | | |
| | | | (138.0-166.2) - Approx 4% disseminated & vein pyrrhotite. Core recovery (95.0-166.2) = 95%. | | | | | | | | |
| | | | (151.6-151.8) - Broken with clay gouge - 30° fracture. | | | | | | | | |
| | | | (153.4-166.2) - occasional (1 per 2') fractures with quartz-calcite-pyrite @ 60-80° $\frac{1\frac{1}{2}}{8}$ $\frac{1}{2}$ | | | | | | | | |
| 166.2 | 178.0 | | <u>VEIN ZONE</u> med. - pale grey, mainly quartz gangue with lesser carbonate, banded structure @ 70°-50°, banded and disseminated sulphides comprising pyrrhotite, pyrite, arsenopyrite, sphalerite and minor galena; good core - 95% recovery | | | | | | | | |
| | | | (166.2-170.0) - fair sulphides | 2859 | 166.2 | 170.0 | 3.8 | 0.005 | 0.21 | 0.06 | 1.46 |
| | | | (170.0-172.6) - weak sulphides - mainly pyrrhotite | 2860 | 170.0 | 172.6 | 2.6 | 0.002 | 0.07 | 0.01 | 0.01 |
| | | | (172.6-174.0) - barren white quartz - fine 70° banding | 2861 | 172.6 | 174.0 | 1.4 | 0.002 | 0.09 | 0.02 | 0.01 |
| | | | (174.0-176.0) - weak sulphides | 2862 | 174.0 | 176.0 | 2.0 | 0.002 | 0.09 | 0.01 | 0.01 |
| | | | (176.0-178.0) - fair sulphides | 2863 | 176.0 | 178.0 | 2.0 | 0.002 | 1.31 | 0.88 | 1.97 |

| FOOTAGE | | SECTION # | DESCRIPTION | L = LESS THAN | | | ASSAYS | | | | |
|---------|-------|--------------|---|---------------|-------|-------|--------|--------|------|-------|-------|
| FROM | TO | | | SAMPLE NO. | FROM | TO | LENGTH | AU | Ag | Pb% | Zn% |
| 178.0 | 179.4 | | <u>DIORITE</u> Med. grey, very fine grained, weakly mineralized with pyrrhotite and pyrite. | 2864 | 178.0 | 179.4 | 1.4 | 20.002 | 0.06 | 20.01 | 20.01 |
| 179.4 | 228.2 | | <u>DIORITE</u> Med. to dark grey, fine-med. grained anhedral granular texture; excellent core in pieces to 2 1/2". (179.4 - 186.2) Veined by 10% pale granitic stringers to 4" width @ 40-70°; less than 1% pyrrhotite as disseminations and veins. (186.2 - 189.6) Pale green grey, aphanitic inclusion with dioritic stringers; less than 1% disseminated pyrrhotite. (189.6 - 228.2) Med-dark grey granular texture, excellent core, 99% recovery; minor inclusions of finer grained rock; local vague 70° banding; occasional fine quartz- or quartz-pyrrhotite healed fracture - average about 1/ft.; 5% granitic veining to 4" width; less than 1% pyrrhotite-pyrite as disseminations and veins. | | | | | | | | |
| 228.2 | 241.3 | | <u>DIORITE / FINE GRAINED DIORITE</u> Dark grey aphanitic - fine-grained, traces of disseminated pyrrhotite; 99% core recovery. | | | | | | | | |
| 241.3 | 263.8 | | <u>DIORITE</u> Dark grey, f.g. anhedral, granular texture; traces of pyrrhotite and pyrite; excellent core, 99% recovery. | | | | | | | | |

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| FOOTAGE | | SECTION # | DESCRIPTION | | | | | ASSAYS | | | |
|---------|-------|--------------|--|------------|-------|-------|--------|---------------|------|------|------|
| FROM | TO | | | SAMPLE NO. | FROM | TO | LENGTH | oz./TON Au | Ag | % Pb | % Zn |
| 263.8 | 266.7 | | <p><u>VEIN ZONE</u> white to dark grey, mainly quartz gangue with minor calcite; carries about 10% sulphides including pyrrhotite, pyrite and arsenopyrite as fine vein fillings, rough 70° banding; fair core in 2-10" pieces, 90% recovery.</p> | 2865 | 263.8 | 266.7 | 2.9 | 0.007 | 1.63 | 0.60 | 0.75 |
| 266.7 | 335 | | <p><u>DIORITE</u> Dark grey, fine-grained anhedral aggregate of white feldspar and dark mafics, mainly biotite; traces of pyrrhotite - pyrite mineralization as disseminations and fine (less than 1/16" veins); excellent core, 99% recovery.</p> <p>(281.3) - 1/4" qtz-pyrite vein @ 60°.</p> <p>(302.3) - 3/4" qtz-pyrite vein @ 80 with a one ft. alteration (pale, f.g.) zone on either side with fine pyrite veinlets.</p> <p>(307.7) 3" broken core associated with quartz-chlorite healed fracture @ 70°.</p> | | | | | | | | |
| 335.0 | 380.5 | | <p><u>DIORITE</u> similar to preceding but now darker grey and finer grained; occasional 1/16" or less quartz veins @ 15-70°; excellent core in pieces to 2 1/2'; rare pyrrhotite as fine veins (1/16" or less) and fine disseminations; 95% core recovery.</p> <p>(356.1) 1/8" calcite-quartz healed fracture with 1" of pale alteration @ 40°.</p> <p>(362.0-373.0) - 10% lighter colored granitic to aplitic stringers (1/2 - 2" widths) mainly @ 50-60°.</p> <p>(370.7) - 1/8" quartz - calcite healed fracture @ 45°.</p> | | | | | | | | |

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| FOOTAGE | | SECTION 1" = | DESCRIPTION | ≤ LESS THAN | | | ASSAYS | | | | FO | |
|---------|-------|-----------------|---|-------------|-------|-------|--------|--------------|------|------|-------|-----|
| FROM | TO | | | SAMPLE NO. | FROM | TO | LENGTH | OZ/TON Au | Ag | %Pb | | %Zn |
| 335 | 380.5 | | CANT'D (350.5) = 2" quartz vein @ 70° with minor pyrrhotite. | | | | | | | | | |
| 380.5 | 384.3 | | <u>MINERALIZED DIORITE</u> Medium grey-green, fine-grained granular to very fine-grained near mineralized fractures at 40-70° which are present @ (380.5-381.0) and (384.0-384.3); mineralization consists of very fine-grained pyrite, pyrrhotite, galena and sphalerite with quartz veins; good core - 95% recovery. | 2831 | 380.5 | 384.3 | 3.8 | 0.01 | 3.30 | 1.12 | 1.50 | |
| 384.3 | 391.3 | | <u>DIORITE</u> medium grey-green, f.g. granular, anhedral aggregates of feldspar and mafics (mainly biotite); cut by occasional quartz-calcite-pyrrhotite veinlet (less than 1/2" thick with up to 1/2" of accompanying alteration which renders adjacent core very fine-grained); good core 95% recovery. | | | | | | | | | |
| 391.3 | 392.8 | | <u>MINERALIZED DIORITE</u> AS 380.5-384.5; 95% recovery; very weak mineralization; virtually all pyrite & pyrrhotite. | 2832 | 391.3 | 392.8 | 1.5 | 0.002 | 0.18 | 0.06 | 0.06 | |
| 392.8 | 393.3 | | <u>VEIN</u> quartz-pyrrhotite, -pyrite-galena @ 85°; broken ground core 60% recovery. | 2833 | 392.8 | 393.3 | 0.5 | 0.102 | 4.89 | 3.55 | 11.00 | |
| 393.3 | 395.3 | | <u>MINERALIZED DIORITE</u> Medium grey-green, fine-grained, contains many fine veinlets and disseminations of pyrrhotite and pyrite with traces of galena and sphalerite; 60% core recovery. | 2834 | 393.3 | 395.3 | 2.0 | 0.002 | 0.10 | 0.03 | 0.01 | |

| FOOTAGE | | SECTION # | DESCRIPTION | L = LESS THAN | | | | ASSAYS | | | | |
|---------|-------|--------------|--|---------------|-------|-------|--------|--------|------|------|------|----|
| FROM | TO | | | SAMPLE NO. | FROM | TO | LENGTH | AU | Ag | Pb % | Zn % | FO |
| 395.3 | 426.5 | | <p><u>DIORITE</u> Medium grey-green to dark grey, fine grained granular texture; cut by occasional quartz calcite veinlet to 1/4" thick mainly @ 60-80°; some contain pyrrhotite-pyrite mineralization; good core 99% recovery. (395.6) 1/2" - quartz vein with pyrrhotite-pyrite and minor arsenopyrite; 70° core angle. (401.1) - 1/8" quartz vein @ 85° with minor pyrrhotite pyrite and arsenopyrite. (409.0 - 426.5) 5% veining by aplitic stringers to 1/2" size and various angles.</p> | | | | | | | | | |
| 426.5 | 426.8 | | <p><u>QUARTZ VEIN</u> pale grey quartz vein @ 40° with coarse-grained galena-sphalerite-pyrrhotite mineralization; good core - 95% recovery; Traces of chalcopyrite.</p> | 2835 | 426.0 | 427.5 | 1.5 | 0.002 | 3.51 | 1.61 | 0.75 | |
| 426.8 | 447.7 | | <p><u>DIORITE</u> as 395.3 - 426.5 99% recovery</p> | | | | | | | | | |
| 447.7 | 449.7 | | <p><u>CARBONATE VEIN/OR INCLUSION</u> Buff to pale brown grey, mottled appearance with the development of "barren (garnets)? minor pyrrhotite-pyrite and sphalerite-galena traces near 447.7; 99% recovery</p> | 2836 | 447.7 | 449.7 | 2.0 | 20.002 | 0.14 | 0.08 | 0.04 | |
| 449.7 | 490.3 | | <p><u>DIORITE</u> Medium grey-green - dark grey; weak banded structure @ 70° with lighter and darker bands 95% recovery. (455.0) - 1 inch quartz-pyrrhotite-sphalerite-galena @ 50° ± calcite (467.5) 1 inch quartz-calcite vein @ 50° ± with pyrrhotite-sphalerite.</p> | | | | | | | | | |

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| FOOTAGE | | SECTION # | DESCRIPTION | SAMPLE NO. | FROM | TO | LENGTH | OZ/TON | | ASSAYS | | TO |
|---------|-------|--------------|---|------------|-------|-------|--------|--------|------|--------|------|----|
| FROM | TO | | | | | | | AU | AG | Pb % | Zn % | |
| 499.7 | 490.3 | | DIORITE (CONT'D) | | | | | | | | | |
| | | | (479.0 - 479.5) 2 aplitic to granitic stringers @ 30-60" | | | | | | | | | |
| | | | (479.5 - 490.0) - Numerous 1" - 1 1/2" euhedral brown biotite phenocrysts (secondary). | | | | | | | | | |
| 490.3 | 491.0 | | VEIN mainly dark grey quartz-carbonate, in part leached, pitted and broken conc, approx. 80% recovery - contains minor pyrrhotite-pyrite with traces of sphalerite. | 2837 | 490.0 | 491.5 | 1.5 | 0.011 | 0.27 | 0.16 | 0.33 | |
| 491.0 | 498.0 | | DIORITE As 499.7 - 490.3 - some sections with med. grained secondary biotite; several 1" - 1 1/2" quartz-calcite veins @ 50-60"; a few contain pyrrhotite with fig. greenish alteration envelopes. | | | | | | | | | |
| | | | END OF HOLE | | | | | | | | | |

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