

ATLAS EXPLORATIONS LIMITED
REPORT ON THE DUB GROUP DRILL
PROGRAM, FIRE LAKE AREA, YUKON

APRIL 1967

By

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INTRODUCTION

During the early spring of 1967 a diamond drill program was initiated on the DUB 1 anomaly near the southeast corner of Fire Lake, Yukon (see topo sheet 105 - G - 2). Drilling was carried out by Arsenault Diamond Drilling of Whitehorse using a BB 5 1 wire line diamond drill. Three vertical holes, totalling 829 feet of core were drilled on elongate coinciding copper geochemical, magnetic and EM anomalies. Sulphide bearing sections of core were split and samples assayed by the Whitehorse Assay office.

The anomalous area is at an elevation of about 4100' and on a northwesterly sloping mountainside.

GEOLOGY

General:

Rocks on the DUB 1 anomaly consist of a sequence of quartz-bearing schists and quartzites having a moderate south-easterly dip.

The schist may be divided into two main groups, the argillaceous and the chloritic schists. Both generally contain quartz and are frequently interbedded with and grade into quartzites. They are, however, generally distinctly separated from one another.

The argillaceous schist tends to be the more abundant of the two and may contain some graphite and a percent or so of disseminated sulphides, predominantly pyrite and pyrrhotite. It is dark to medium grey in colour and often containing quartz rich layers giving it a grey and white banded appearance. Units are of varying thickness up to 150 feet but correlation, even between close sections, is difficult, probably on account of a combination of thrust faulting and of pinching out and swelling of the units themselves.

The chloritic schists are generally light green in colour and contain both quartz and mica. Contacts between the chloritic schist and quartzites are often gradational from a distinct green schist to a white to grey-green chlorite bearing quartzite. Pyrite and pyrrhotite may be present in the chlorite bearing schists as well as in the argillaceous ones but generally they are less abundant in the former.

Faulting is common in the rocks and is usually accompanied by drag folding and fault gouge. Occasionally, pyrrhotite mineralization occurs associated with the acute folding. No major or persistent fault was recognized.

Mineralization:

Pyrite, pyrrhotite, magnetite, and possibly marcasite

occur in the schists. Total sulphide content rarely exceeds an estimated one percent and no significant values of either copper, gold, or silver were encountered.

Sulphides occur disseminated and as thin stringers both cutting and parallel to planes of schistosity. Pyrrhotite and a little pyrite is occasionally present in crenulated and tightly folded rock. Pyrite is also sometimes present with stringers of white quartz. A small amount of magnetite is present, but it is invariably very finely disseminated and difficult to see.

DISCUSSION

The sulphides described above may be sufficient to explain the geophysical anomalies on the DUB 1 group. Pyrrhotite is present in enough quantity to cause a magnetic anomaly and it combined with the pyrite may form the conductor detected by the EM survey. Although these minerals are generally disseminated there may be enough sulphide in stringers and on planes of schistosity to cause the elongate anomaly. Drilling results however, show that the sulphides are found through considerable stratigraphic thicknesses and are not necessarily confined to any one particular horizon, although they are most abundant in the banded argillaceous schist (DDH 1 50' to 200' approximately.)

The schist appears to be approaching the surface in the general vicinity of the magnetic high but would be expected to result in a much broader magnetic anomaly than the one actually detected (perhaps similar to the one at 20S 10E which is closer to where the horizon should outcrop).

The high copper geochemical results were not explained by the drill program. No copper mineralization was encountered and only trace values of the metal were obtained in the core.

CONCLUSIONS AND RECOMMENDATION

Although drilling has established the presence of mineralization in sufficient quantity to cause both magnetic and electro-magnetic anomalies, it has not explained the source of the high copper geochemical values. In addition, the type of magnetic anomaly which might be expected from the pyrrhotite, rich horizons encountered in holes 1 and 2 would be broader and perhaps of lower intensity than that occurring at 20S 13E.

It appears therefore that the source of the copper and high magnetics is a narrow zone, almost undoubtedly cutting the schistosity and situated just west of the drilled area. This could readily be tested for by drilling a flat angle hole west

- 5 -

along the line from a setup at about 20S 14E. A light drill would probably be adequate for this work as no serious difficulty was encountered in core recovery. Should a zone of interesting mineralization be found it could readily be traced both north and south by drilling similar parallel holes.

Clearings have been cut in the vicinity of the proposed setup making the anomaly readily accessible by helicopter.

20S 13 E

20S 14 E

20S 15 E

-4200

-4100

-4000

-3900

Fire Lake Level

D 67-1

D 67-2

OVERBURDEN

OVERBURDEN

- 60° — QUARTZ-CHLORITE-MICA SCHIST. SMALL AMOUNT PYRITE OR MARCASITE.
- 60-65° — QUARTZ-MICA SCHIST WITH 1% SULPHIDES (PYRITE, MARCASITE + PYRRHOTITE).
- 65-70° — BANDED QUARTZ-MICA SCHIST
- 65-70° — QUARTZ-CHLORITE-MICA SCHIST WITH PYRRHOTITE
- 65-70° — GREY+WHITE BANDED ARGILLACEOUS SCHIST WITH 1% SULPHIDE (PYRRHOTITE + PYRITE OR MARCASITE)
- 70° — QUARTZ-CHLORITE-MICA SCHIST
- 70° — GREY+WHITE BANDED ARGIL. SCHIST
- 70° — QUARTZ-CHLORITE-MICA SCHIST WITH INTERMITTENT ZONES OF DARK GREY AND WHITE ARGILLACEOUS SCHIST.
- 75° —
- 80-90° — DARK GREY + WHITE BANDED ARGILLACEOUS SCHIST WITH MARCASITE AND DISSEMINATED PYRRHOTITE (1% APPROX.) AND GRAPHITE.

- 60°-70° — BANDED WHITE + GREENISH GREY QUARTZ-BIOTITE-CHLORITE SCHIST
- 75°-85° — DARK GREEN ARGILLACEOUS QUARTZ-CHLORITE SCHIST
- 80° — QUARTZ-CHLORITE SCHIST, 1% PYRRHOTITE
- 60°-70° — BANDED CHLORITE-QUARTZ-MICA SCHIST. MILDLY CALCAREOUS WITH TRACE OF PYRRHOTITE.
- 70°-80° — QUARTZ-MICA SCHIST. INDISTINCTLY BANDED 1% PYRRHOTITE. 75% QUARTZ.
- 80° — ARGILLACEOUS GRAPHITE-QUARTZ-SCHIST. CONTAINS 1% PYRRHOTITE.
- 75°-80° — QUARTZ-MICA SCHIST OR QUARTZITE. 80% QUARTZ. 1% PYRITE + PYRRHOTITE.
- 80°-90° — ARGILLACEOUS GRAPHITE-QUARTZ SCHIST WITH 1 TO 2% PYRRHOTITE.
- 80°-85° — CHLORITE-QUARTZ SCHIST. GREEN+WHITE IRREG. BANDING. MEDIUM GRAINED + WITH INTERMITTENT BIOTITE-RICH BANDS
- Shearing
- 75°-80° —
- 60° — Contorted Zone
- 0° — ARGILLACEOUS GRAPHITE-QUARTZ SCHIST BANDED GREY + WHITE. LAMINAE ARE 1/8" TO 1/4" THICK. 1% TO 2% SULPHIDES (PYRITE + PYRRHOTITE) ARE PRESENT.
- 75°-80° —
- 80°-90° — QUARTZ-CHLORITE-MICA SCHIST. 1% PYRRHOTITE + ABOUT 50% QUARTZ.
- 85° — ARGILLACEOUS GRAPHITE-QUARTZ SCHIST. BANDED GREY+WHITE + WITH 50% QTZ.
- 30° —
- 80° — QUARTZ-MICA-CHLORITE SCHIST. LESS THAN 1% SULPHIDES.
- 80° — BANDED ARGILLACEOUS QUARTZ GRAPHITE SCHIST. UP TO 10% MICA PRESENT IN SOME HORIZONS.
- 80° — CHLORITE-MICA-QUARTZ SCHIST
- 80° — ARGILLACEOUS GRAPHITE QUARTZ SCHIST. 1% TO 2% PYRRHOTITE. 50% QUARTZ. SOME BANDS OF MICA-RICH MATERIAL CONTAINING 10% TO 20% BROWN MICA.
- 80° —
- 70° — MICA-QUARTZ SCHIST WITH GRAPHITIC BANDS AND LESS THAN 1% PYRRHOTITE.

- 90° — MICA-QUARTZ SCHIST WITH 1% PYRITE, SOME CHLORITE
- BANDED QUARTZ-MICA-CHLORITE SCHIST WITH VEINS OR BANDS OF WHITE QUARTZ UP TO TWO INCHES THICK PARALLEL TO SCHISTOSITY.
- BANDED GREY AND WHITE MICA-QUARTZ-SERICITE SCHIST. ARGILLACEOUS. BANDS 1/8" TO 1/4" THICK.
- MICA-QUARTZ-CHLORITE SCHIST
- 90° — GREY + WHITE ARGILLACEOUS SCHIST CUT BY VEINS OF WHITE QUARTZ (304-305').

DUB GROUP
Drill Hole Profiles

DUB 1 DRILLING PLAN

SCALE 1" TO 400'

45

85

125

165

205

245

285

325

365

○ 67-2

○ 67-1

○ 67-3

- 16E

- 12E

- 8E

- 4E

→ BL

FIRE LAKE

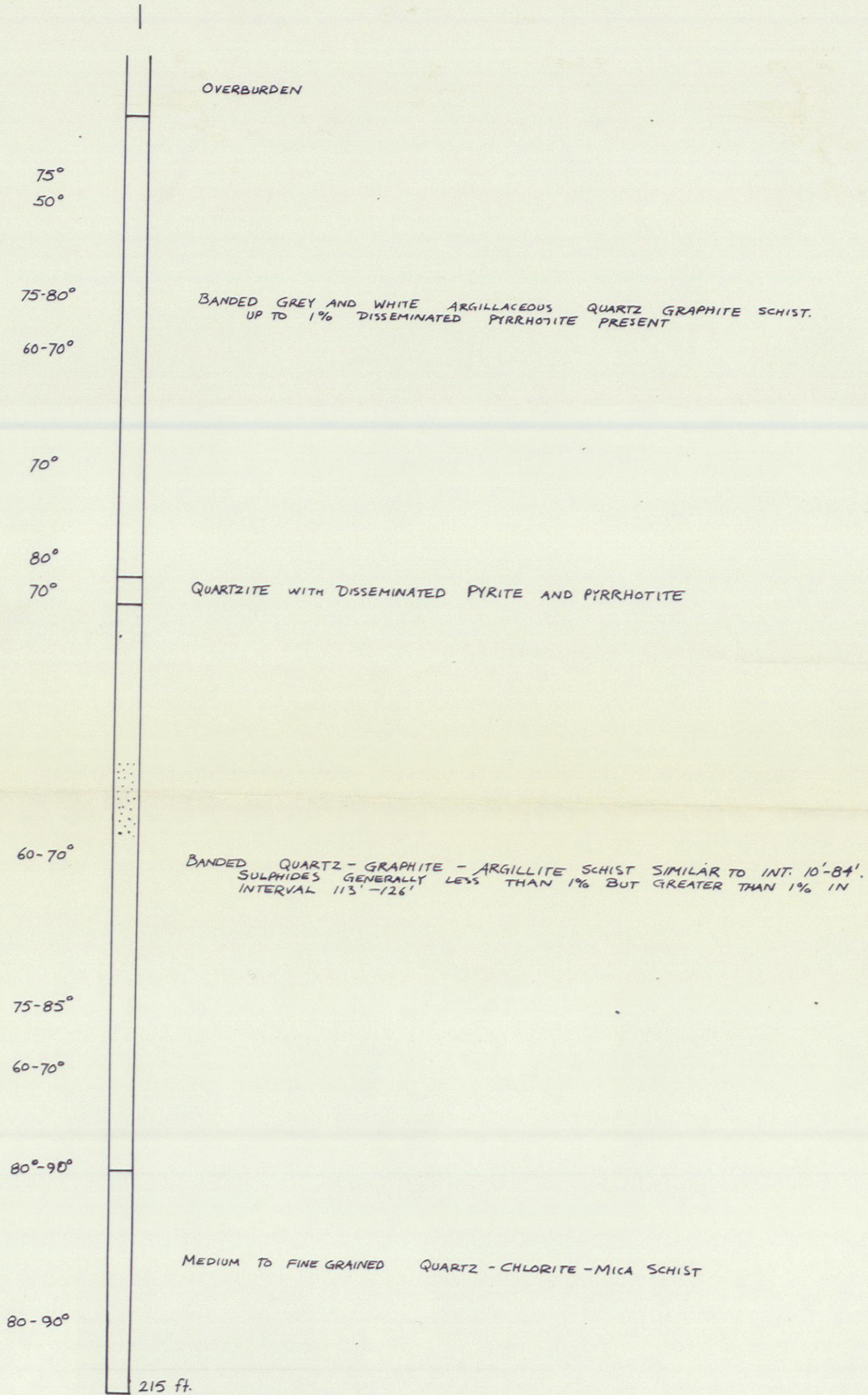
NORTH

DRILL HOLE PROFILE, DUB 1 ANOMALY
FIRE LAKE AREA, YUKON

DDH 67-3

16+005, 11+90 E

Scale: 1 inch to 20 feet



BY DATE
CHKD. BY DATE

SUBJECT

SHEET NO. OF
JOB NO.

T. J. Adair - Brown