

Property File

020312

# ATAN LAKE PROPERTY

104P 047

COMPREHENSIVE GEOLOGY REPORT  
ON THE  
ATAN LAKE PROPERTY

Liard Mining Division, Northern British  
Columbia

Latitude 59°15'N - Longitude 129°15'W

Report By:

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August 23, 1972.

## INTRODUCTION

This report briefly describes the geology, mineralization and recent exploration program on the Atan Lake Property of Tournigan Mining Explorations Ltd. The exploration work mainly consists of limited trenching and stripping of about 125,000 square feet over part of I.P. anomaly no. 3 located at 54.00 N. on the Base line.

## LOCATION

The Atan Lake Property is situated 1 mile east of the abandoned settlement of McDame Post on the Dease River in Northern British Columbia. The property is about 80 miles south-west of Watson Lake, Yukon Territory and is accessible by road west of Watson Lake, Yukon Territory.

## CLAIM AND OWNERSHIP

The Atan Lake Property consists of 43 contiguous full sized claims and three fractions in the Liard Mining Division of B.C. The claims are owned by Tournigan Mining Explorations Ltd. of Vancouver, B.C. (Refer to Figure 2).

## HISTORY AND PREVIOUS WORK

The claims were staked originally by Tournigan Mining Explorations Ltd. in the spring of 1967 and approximately \$140,000 has been spent on exploration work to this date (August 23, 1972). The following is the brief description of exploration work done on the property:

- (a) geological mapping
- (b) geochemical and geophysical work (contracted to 'Geo-X-Surveys'; 1968)

- (c) Trenching attempted on geochem and I.P. anomalies and 5.1 miles of road (4 wheel drive) built giving access to different anomalies.
- (d) During 1969, a contract was given to Midwest Drilling Co. to drill 3,500 feet over target areas on the Property. Unfortunately, due to technical problems only 1,200 feet of drilling was done on one anomaly immediately south of Atan Lake. No drilling has been done yet on the north part of the property or on Barite Hill where good showings of galena, silver, copper minerals and barite were observed during the recent mapping by the author.
- (e) In October 1970 - a gravity survey outlined an "open" anomaly coincident to the north anomaly (I.P. #3) and a probable tonnage of 10 million tons of barite (?) was ~~estimated~~. According to the gravity operator, a much larger tonnage is very possible.
- (f) In the process of building roads to the north anomaly, galena, silver, copper minerals and barite were uncovered which led to the recent exploration work on Property (August, 1972).

#### GENERAL GEOLOGY

The Atan Lake Property is situated near the east boundary of the Stikine Range of Cassiar Mountains physiographic Division of British Columbia and lies immediately west of the Liard Plain. The property is located on the west flank of an anticlinorium mainly composed of Lower Paleozoic and Upper Proterzoic miogeosynclinal rock sequence (H. Gabrielse). The claim area was mapped as Upper Atan Group (Lower Cambrian) mainly consisting of dolomite and limestone with minor interbedded argillites and arenites. The calcareous sediments are often associated with silver, lead, tetrahedrite, abundant barite and sparse zinc on the Property. Probably, silver-lead-zinc have replaced dolomitized limestones.

#### GEOLOGY AND MINERALIZATION

##### (1) NORTH TRENCHED AREA

During August of 1972, ten trenches and stripping of

about 125,000 sq. ft. over part of I.P. anomaly #3 approximately located around 54+00 N. on the base line, exposed a favourable recrystallized dolomitic limestone horizon striking from 300° - 315° (azimuth), dipping 45° - 60° to the south west interbedded with minor horizons of arenaceous dolomite and argillites. The dolomitic limestone breccia is coarse-grained and buff to buff-grey in color on the surfaces and is the host rock, carrying assemblages of coarse-grained galena, silver, tetrahedrite, abundant barite and sparse sphalerite. (Refer to Geology Map for assay of the samples taken from the mapped area). Dolomitization of limestone horizons, localize the mineralization in places. It appears that occurrences of massive galena, barite, silver and copper minerals generally follow an en-echelon type of pattern which is controlled by stratigraphy and structures of calcareous sediments. The bed rock is covered by minor overburden varying from 2' - 8' in vertical depth, and brecciation is wide-spread.

(2) BARITE HILL (Elev. 2,610')

Barite Hill is located between 19+00 N and 15+00 N on base line north of Dease River (Refer to Geology Map). The area was mapped by the author on 1" = 50' scale during August, 1972. The favourable recrystallized dolomitic limestone trending to NW dipping to SW most often are associated with scattered occurrences of abundant barite, copper minerals and sparse disseminates of galena associated with barite. No trenching or drilling is done in this area yet although inconclusive gravity highs of +5.0 milligals occur here.

RECOMMENDATIONS

The surface showings of abundant barite, galena and copper minerals are very encouraging indeed, but to estimate tonnage

and grade of the deposits at depth, diamond drilling and extensive trenching is advisable to realize the fuller economic potential of the Property. Furthermore, a current extension of the Pacific Great Eastern Railway from Dease Lake to the north may alter considerably the economics of the situation, since the Atan Lake Property lies within the surveyed right-of-way.

The following exploration program is recommended on the Atan Lake Property in northern B.C.:

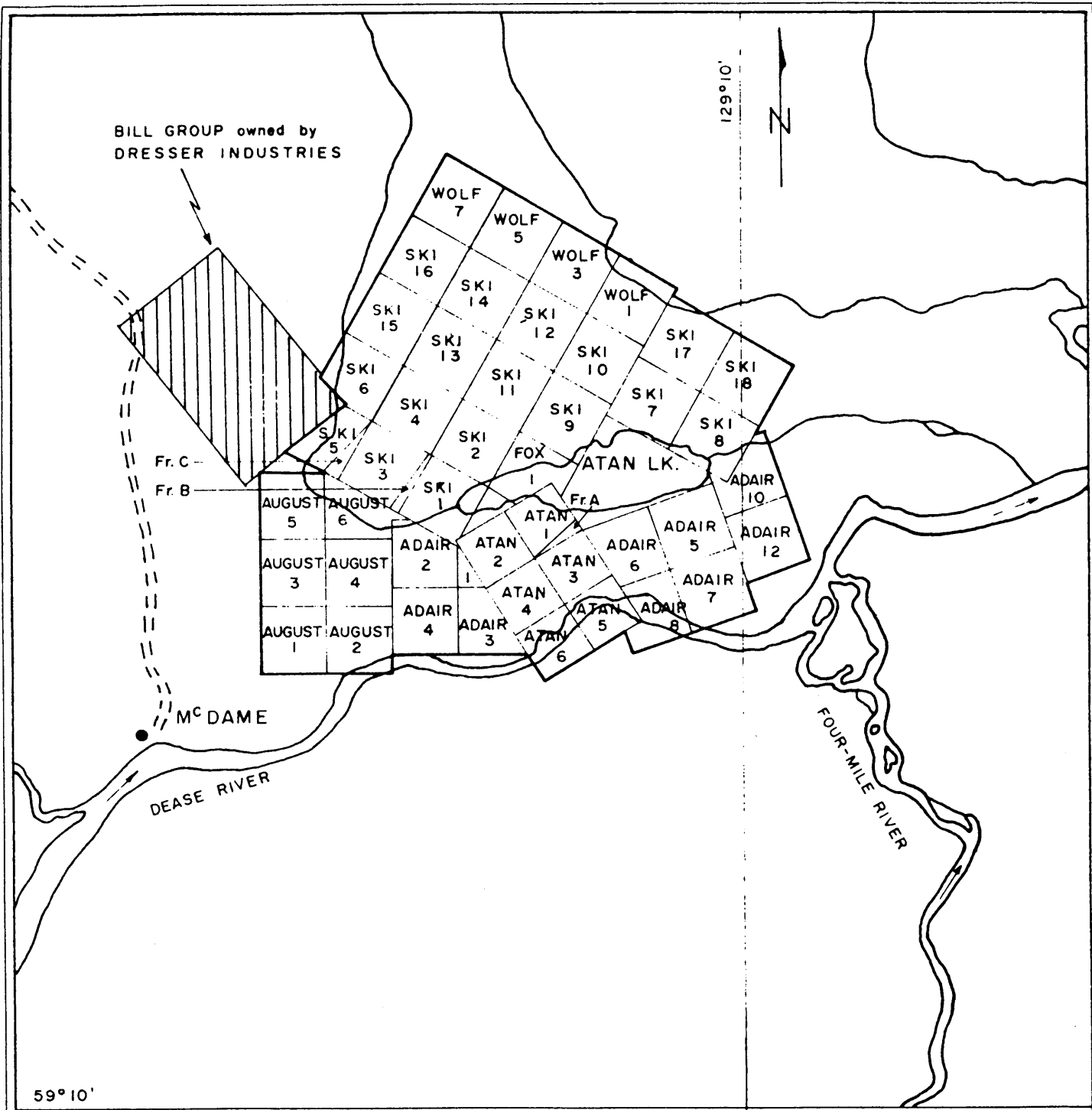
- (a) Further trenching over I.P. anomalies 1,2 and 3 (Refer to Figure 3).
- (b) Construct drill access roads to areas of deep overburden; diamond drill at least 2,000 feet in areas of favourable geology where coincident geochemical-induced polarization anomalies encountered and particularly in north trenched area.
- (c) Trenching and detail geological mapping of Barite Hill with follow-up drill testing.

If, after completion of the above described program, the results are sufficiently encouraging, additional exploration will be required to develop the property further.

Respectfully submitted,



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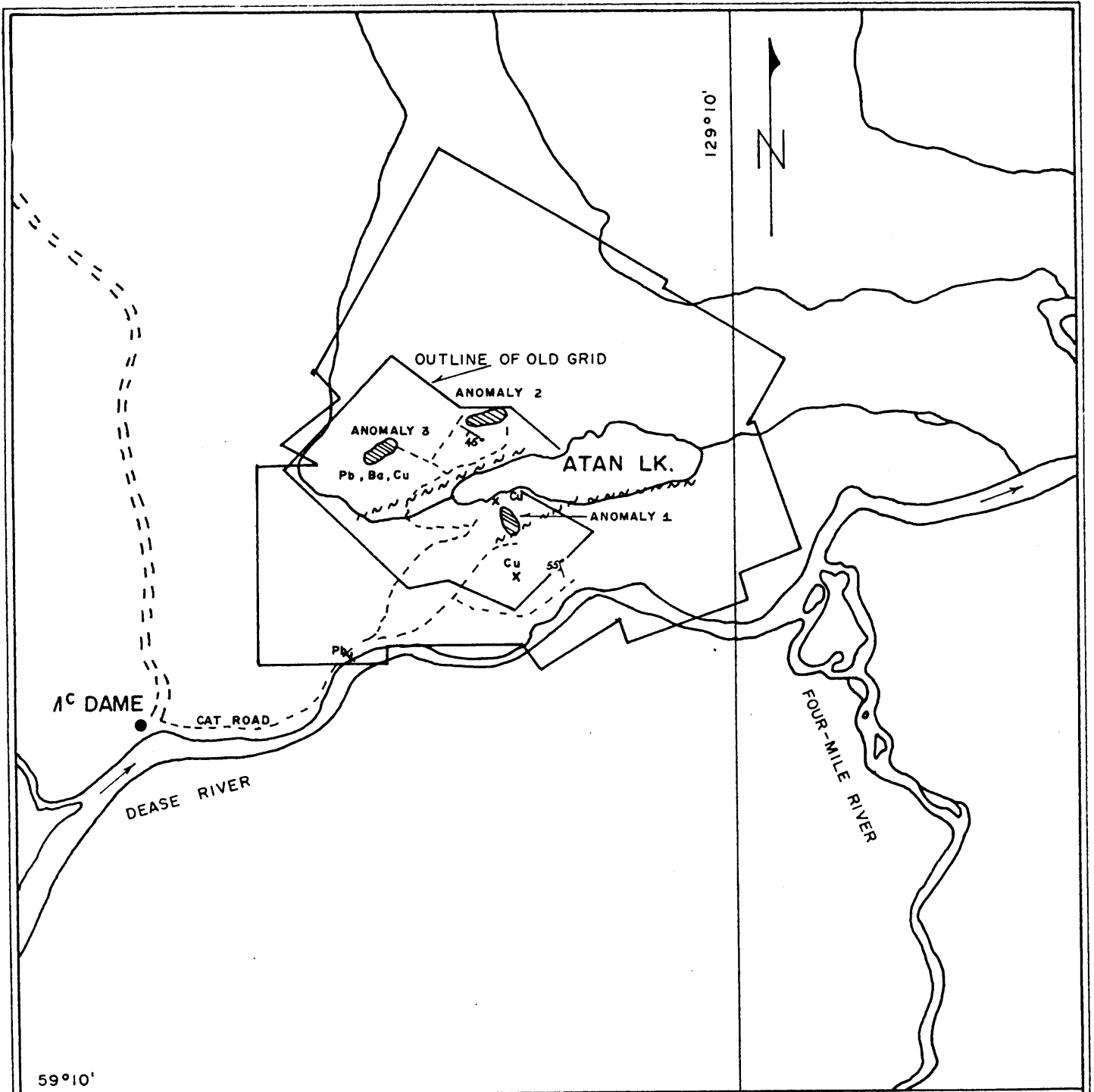


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**ATAN LAKE PROPERTY  
CLAIMS MAP**





FIGURE 2

0      MILES      1



59°10'

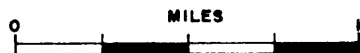
**LEGEND**

-  Assumed Fault
- Cu** Copper
- Ba** Barite
- Pb** Lead
-  Strike and Dip of  
35° ATAN GROUP
-  IP Anomalies
-  Cat Road

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**ATAN LAKE PROPERTY  
ECONOMIC  
GEOLOGY MAP**

FIGURE 3



## REFERENCES

- (1) Dawson, G.M., (1889). Report on an Exploration in Yukon District, N.W.T., and adjacent Northern Portion of B.C.; G.S.C. Annual Report, 1887, Vol. 3, Part B, Pages 1 - 183.
- (2) Gabrielse, H. (1963) McDame Map Area, Cassiar District, B.C. G.S.C. Memoir 319.
- (3) Cochrane, D.R. (1968), Geophysical and Geochemical Report on portions of the Adair, Ski, August and Atan claims., B.C. Department of Mines Assessment Report No. 1813.
- (4) Swanson, H.E. (1970), Gravity Survey, Atan Lake Claim Group. (Report #2762).
- (5) Cochrane, D.R., (1971), Intermediate Economic Geology, Report on the Atan Lake Property.