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PELLY RIVER MINES LIMITED

REVIEW OF 1972 EXPLORATION PROGRAM

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INTRODUCTION

Exploration activities on Pelly River Mines Ltd. (PRM) claim groups in 1972 included geologic mapping, ground geophysical surveys and diamond drilling. Each aspect of this program is discussed in the following report. Costs for this program are reviewed.

GEOLOGICAL INVESTIGATIONS

Mapping of all Anvil and Pelly River claim groups at 1000 scale was completed during the 1972 field season. Maps of the Faro grid and open pit plus drilling data on the Vangorda and Swim properties have been reduced and included in the 1000 scale compilations. All Anvil, Dynasty and Kerr Addison exploration drill holes have been located on these compilations. Geological data on the Vangorda and Swim deposits as well as Lockwood AEM results have been integrated into geological interpretations of the Anvil district.

Stratigraphy

Stratigraphic relationships mapped on the Faro grid have been successfully extended to the rest of the claim area. The existence of two stratigraphic units which host sulfide mineralization has been confirmed. The biotite-muscovite schist unit is host to the Faro deposits, all other occurrences of massive Pb-Zn sulfides are found in the biotite-muscovite - chlorite phyllite unit (Figure 1). Regional mapping has shown that known sulfide deposits occur within quite restricted horizons of these units. In particular, the Vangorda

and Champ deposits occur immediately northeast of the principal meta-volcanic rock units through the central part of the Vangorda plateau (Figure 1). Structural projections and stratigraphic correlation indicate the Swim deposit is also in this horizon. The Faro deposits occur in the biotite-muscovite schist 200 to 400 feet "below" its contact with the calc-silicate phyllite near the Anvil mine (Figure 1).

Inspection of the various stratigraphic units mapped in the Anvil district suggests a general model of accumulation for the Eocambrian succession. The metabasites, banded chlorite phyllites and amygdaloidal chlorite phyllites are of extrusive volcanic and explosive volcanic origin respectively. The schists and phyllites are dominantly of sedimentary origin probably derived from weathering of the Purcell-Windermere clastic wedge to the east. The entire Eocambrian package suggests accumulation of intercalated volcanic flows, pyroclastic rocks and pelitic sediments in a marine geoclinal wedge proximal to a major oceanic riff zone. This model will be discussed further in a later section on sulfide deposit genesis.

Deformational History:

Structural mapping has confirmed that the deformational features and history documented in the review of the 1971 exploration program can be extended to all Eocambrian rocks in the district. It has also been demonstrated that deformational model, case 3 (pg. 31, Anvil Exploration Report, 1971 Program) best describes the resultant rock geometry of the D_1 and D_2 deformations in the Anvil belt. The macroscopic structure of the district, a large (>4 mile amplitude), recumbent, nappe-type F_2 fold, has been deciphered. The outcrop

pattern and attitude of the Eocambrian stratigraphic units and their enclosed sulfide deposits are commensurate with this structural interpretation.

Genesis of Sulfide Deposits:

Comparison of the Swim, Vangorda and Faro deposits indicates several common characteristics:

1) The sulfides are of approximately the same bulk and mineralogical composition.

2) The sulfides are massive in the sense that very little host rock in interbanded with them.

3) A siliceous zone envelopes each deposit at the sulfide-host rock contact.

4) A zone of white mica development "halos" each deposit.

5) All deposits are restricted to relatively thin stratigraphic horizons within the two host units.

6) All deposits have been subjected to two periods of regional, dynamo-thermal metamorphism and as such are pre-metamorphic in origin.

The possession of these common characteristics suggests a common mode of origin. The uniform composition, and massive character of the ores plus the white mica and silica-rich "alteration" halos bear a similarity to Precambrian volcanogenic massive sulfide deposits e.g. Noranda-Mattagami, Flin Flon, etc. and to the Miocene Kuroko-type deposits of Japan. These deposits, like those of the Anvil district, occur within restricted stratigraphic horizons. Perhaps the deposits of the Anvil district are volcanic exhalative in origin forming as submarine fumarolic emanations from an oceanic rift zone along the locus of Tintina Trench. In this respect, analogy is made between the Red Sea and Anvil deposits. Work on the genesis of the Anvil deposits is continuing.

GEOPHYSICAL INVESTIGATIONS

A Turam survey was conducted on the existing TIE grid. Previous surveys indicated a soil geochemical anomaly extended from the Vangorda deposit across the SUN and GAL claims through this area. Gravity anomalies on the TIE group are spatially related to but not coincident with the geochemical anomalies. The Turam survey was conducted to evaluate the gravity anomalies and to see if anomalous conductors could be related to the geochemical anomalies. This survey indicated one anomalous conductive zone north of a metabasite unit. A soil geochemical and a gravity anomaly were associated with this conductor (Figure 2).

DIAMOND DRILLING

One drill hole, 72-023 on TIE mineral claim #24, intersected 303 feet of graphitic phyllite with no sulfide mineralization. It was spotted near the peak of a residual gravity anomaly nearly coincident with the main TIE Turam anomaly. The log of 72-023 is included as Table 1.

ANVIL MINING CORPORATION LIMITED
Faro, Yukon

ZONE ..... SUN GAL TIE Geochem .....
LOCATION Turam Gravity Grid
DATE DRILLED Oct., 1972

HOLE NO. X7223 DEPTH 303
COLLAR ELEVATION ..... CORE SIZE BQ ..... INCLINATION TESTS
BEARING ..... (MAG OR TRUE DIP -90°
CO-ORDINATES 6400 ..... N. 136 W ..... E
SURFACE X ..... OR UNDERGROUND .....

True position relative to 3000 N

SCALE OF LOG 1" = 40' LOGGED BY U.J. ..... DATE Oct. 28/72 TOTAL RECOVERY 94.7

SHEET 1 OF ..

	ROCK TYPES AND ALTERATION	S_1	S_2	MINERALIZATION AND STRUCTURES	FOOTAGE BLOCKS	% RECOVERY	SAMPLE NO.	INTERVAL FROM	INTERVAL TO
0	Overburden								
6	Graphitic Biotite Sericite Phyllite, banded with light grey to white calcareous zones Possible S_1			traces py w/CO_3 and less w/graphitic					
	25-35% of vol. are med. grey bands								
117	Highly Graphitic Biotite Sericite Phyllite dark grey to black 10% CO_3 bands								

ANVIL MINING CORPORATION LIMITED Faro, Yukon

ZONE..... HOLE NO. ..... SCALE OF LOG ....

SHEET OF

ROCK TYPES AND ALTERATION	S_1	S_2	MINERALIZATION AND STRUCTURES	FOOTAGE BLOCKS	% RECOVERY	SAMPLE NO.	INTERVAL FROM	INTERVAL TO
240 252 Graphitic Biotite Sericite Phyllite Less graphitic towards bottom								
Light grey CO_3 - Sericite bands make up 50% of core. Med. dark grey Bio. & Graph. zones 50%								

ECONOMIC POTENTIAL OF PRM CLAIM HOLDINGS

Economic potential of each PRM claim group is reviewed in terms of geological, geophysical and geochemical data drawn from 1000 scale compilations. It is hoped that this review will provide a logical basis for continued exploration of PRM ground during 1973.

BILL Claim Group:

The BILL claims for the most part are stratigraphically below the Faro mineralized horizon in the biotite-muscovite schist unit. On geological grounds therefore, BILL economic potential appears low. A gravity survey covers about two-thirds of the BILL claims. Selected residual gravity anomalies have been drilled with negative results. The only significant Pb-Zn soil geochemistry anomaly occurs near the junction of the North Fork of Rose Creek and the mine tote road. This anomaly has a coincident gravity anomaly which has been tested with negative results by DDH 71-212. No compelling target areas remain on the BILL claim group.

LO Claim Group:

As in the case of the BILL, the LO claim group covers a portion of the biotite-muscovite schist unit that is stratigraphically below the horizon containing the Faro deposits. In addition, there are no untested geophysical or geochemical anomalies on the LO resulting in poor exploration potential for the group.

JOE Claim Group:

Part of the JOE claims straddles the "favourable" horizon in the vicinity of the ski hill. In this area, the overlying biotite-muscovite - chlorite phyllite covers the "favourable" horizon with thicknesses in excess of 400 feet making geophysical testing of this horizon difficult. At present, there are no encouraging geophysical or geochemical responses remaining to be tested on this claim group.

TIE Claim Group:

For the most part, the TIE group lies stratigraphically above the Vangorda-Champ mineralized horizon in the biotite-muscovite - chlorite phyllite unit. A graphitic phyllite lens on the TIE gives rise to a weak Lockwood AEM response. Two Pb soil anomalies occur over this graphitic unit. Turam and gravity testing of this graphitic unit should be undertaken eventually.

GALE Claim Group:

The GALE claims straddle the Vangorda-Champ mineralized horizon immediately east of the Vangorda deposit. Stratigraphically, the GALE has the best exploration potential. A review of geophysical and geochemical data on the GALE is contained in the PRM 1973 exploration proposal. A thorough investigation of the GALE group is planned for 1973.

BUDGET

Expenditures made by Anvil on PRM claim groups are itemized in Table 2. By prior agreement, Anvil will bill PRM shareholders as indicated in this table.

TABLE 2: ITEMIZED COSTS, 1972 EXPLORATION; PELLY RIVER MINES

For work completed on BILL-LO-JOE-TIE-BOB-LAKE claim groups to December 31, 1972:

Salaries:[1]	
(Covering all geologic mapping, base map preparation, geophysical and drilling supervision and compilation of geological, geochemical and geophysical data)	$ 4,367
Equipment and Supplies:[1]	
Hertz 4 x 4	181
Avis 2 wheel drive ½ ton	156
Base map (1000 scale)	631
Geophysics: (portion on TIE claims)	
Linecutting (4.3 mi. x $130)	559
Turam (3.5 mi. x $185)	647
Diamond Drilling: (DDH 72-023 on TIE M.C. #24)	
Cost (303 ft. x $18.39/ft.)	5,571
Total Cost, 1972 Exploration on PRM Ground	$12,112

[1] These costs based on PRM's claim groups equalling 7.5% of total area covered by 1972 Anvil program.

TABLE 2: CALCULATION OF CONTRIBUTIONS; 1972 EXPLORATION; PELLY RIVER MINES

Total Cost of 1972 Programs on PRM Ground:		$12,112
Anvil Mining Corp. Ltd.	(57.1%)	6,916
Rose Creek Vangorda Mines Ltd.	(28.6%)	3,464
Cyprus Mines	(8.6%)	1,042
Dynasty Explorations Ltd.	(5.7%)	690
		$12,112