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Evaluation Report on the Rackla River Mines  
Claims, Kathleen Lake Area, NTS 106-D-8  
Mayo Mining District, Yukon

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Dated: 14 March 1975

## SUMMARY

Soil geochemical surveys detailed a zone of anomalous metal content outside the discovery area where previous exploration work was concentrated. There appears to be a spatial relationship between rock type and the more extensive soil anomalies.

Two main rock units, a gray weathering Devonian limestone and buff weathering Proterozoic dolomite, are located on the claims. The mineralization appears to be concentrated near the contact of these units, but below the limestone.

Two drill holes totalling 750.5 feet of BQ core were completed. Hole 74RR-1, located in the discovery area, and 900 feet east of previous drilling, intercepted 33 feet of 4.14% Zn representing sphalerite with carbonate in interstitial cement between carbonate rock fragments. Hole 74RR-2, tested source of metals in the recently defined soil geochemical anomaly located 1800 feet to the northwest of Hole 74RR-1. Moderately high base metal values were found in the top 35 feet of bedrock. Minor amounts of galena, present in carbonate cement between rock fragments, was the only base metal mineral identified in this core.

Low grade wide-spread mineralization is present on these claims in addition to the previously identified fracture controlled mineral zones. The distribution and nature of this mineralization has not been defined. The anticipated grades, based on results in 74RR-1 would be low, probably not exceeding 5% for any significant tonnages.

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## INTRODUCTION

Anvil Mining Corporation Ltd., under an option agreement with Rackla River Mines (N. P. L.) Ltd., 605 - 535 Thurlow St., Vancouver, B. C., carried out exploration work on part of the 40 BUD, 26 CON, and 2 DAGO claims located 70 miles east northeast of Mayo, Yukon Territory. Massive lead and zinc sulfide mineralization had been found on the claims in previous exploration.

The original claims, located about 2.5 miles north of Kathleen Lakes, were staked in September 1951 by Gordon Dickson on a zone of iron oxide staining. In the 1950's Prospectors Airways conducted an extensive exploration program including geological mapping, soil geochemistry, and rock trenching which led to the discovery of small veins of massive lead-zinc mineralization. In the mid 1960's Rackla River Mines acquired the mineral claims and conducted limited exploration which included bulldozer trenching, geological mapping, and property evaluation by E. O. Chisholm, consulting geologist. In 1971, Casino Silver Mines Ltd. acquired an option on the DAGO and BUD mineral claims and carried out the most extensive exploration since the work by Prospectors Airways. Casino Silver Mines completed an induced polarization and electrical resistivity survey over the original showing prior to drilling four holes along the strike of the original showing. Narrow zones of massive sulfide mineralization containing several percent combined lead and zinc were intercepted. The mineralization was believed to be fracture controlled with only small tonnage potential. The low silver content, in conjunction with the limited tonnage potential, made the economic potential unattractive and the option was not renewed. In 1972, A. Allan, consulting geologist, staked 26 CON claims for Rackla River Mines around part of the existing BUD and DAGO claims, and also conducted soil geochemical surveys and geological mapping. The soil surveys on the newly acquired CON claims consisted of claim location line sampling on 400 foot centers, and a 400 by 400 foot grid to fill in between location lines in some areas. Several zones of anomalously high lead and zinc values in soil were indicated, but no further follow-up was undertaken.

In 1973, this property was brought to the attention of Anvil Mining Corporation Ltd. by A. Allan, then employed by the company. At that time compilation of all the available exploration data on this property showed several large untested areas of highly anomalous lead and zinc content in soils, and a possible relationship of the geochemically anomalous zones to specific rock units. The latter suggested possible stratiform mineralization in addition to the previously discovered vein type mineralization. This possibility enhanced the development of significant tonnages, making the lack of high silver less important to developing an economic deposit.

## PRESENT INVESTIGATION

Soil geochemical, ground magnetic, and geologic investigation of selected areas of the optioned claims was initiated in July 1974 to define drill targets. The ground magnetometer study was initiated to determine if the known mineralization had a distinct magnetic response and was then extended to cover the same area as the geochemical survey. Geological mapping was undertaken to resolve differences on previously prepared maps in identification of areas underlain by shales and limestones. Diamond drill targets were selected on the results of this and previous work.

## GEOCHEMICAL SURVEYS

Two zones of anomalous high base metals content in soil samples were selected from previous work for detailed sampling on 400 foot centers to determine the relative metal values and extent of the anomalous areas. Zone "A" in the northwest corner of the claim block and Zone "B" in the southeast area of the claim block are shown on the accompanying map. In both areas previously sampled claim location lines which showed "anomalous" high metal content in soil were used as base lines from which right angle lines were run by compass and chain to establish a rectilinear grid with 400 foot station spacing for additional soil sampling. "B" soil horizon samples, or material directly below the organic layer, was taken for chemical analysis. Soil horizons were not well developed over much of the sampled areas and the sampled material may be better described as rubble and rock dust.

The results of the geochemical survey show Zone "A" to be extensive with high lead and zinc values while Zone "B" contained no highly anomalous values by comparison. The anomalous values in Zone "A" appear to be related to the contact between a limestone and a dolomitic "shale" unit.

## GROUND MAGNETOMETER SURVEY

Magnetometer test lines were completed over known sulfide mineralization along three I. P. lines using a McPhar Model 700 fluxgate instrument. While these test profiles revealed no systematic magnetic change as the veins were approached, a 75γ high was observed when

standing directly over the vein. The ground magnetometer survey was then completed in the areas of the soil geochemical sampling in anticipation that broad zones of weak magnetic anomalies could be expected to accompany the geochemical anomalies.

The magnetic data showed uniform values with no anomalous zones within the surveyed grids and the results were not plotted.

## GEOLOGY

Discrepancies as to rock types in parts of the areas covered by claims were noted between the maps prepared by Prospectors Airways' geologists and Rackla River Mines. Therefore several days were spent in 1974 to resolve these differences and to examine the geology of the unmapped portions of the claims, especially in the zones of anomalous metal content in soils.

Two readily mappable units within the claim area are a gray limestone and an orange weathering, platy, buff-colored, dolomitic shale. According to the Geological Survey of Canada (G.S.C. Memoir 364) these units, 8 and 2, represent a Devonian limestone overlying Proterozoic, orange weathering, dolomite. The vein mineralization appears to be confined to the top of unit 2, which was identified as shale on the Rackla River Mines geology map.

Structurally, the major feature in the claim area is an asymmetrical southeast plunging syncline, with limestones forming the core of the structure.

A conjugate set of mineralized east northeast and north northwest trending veins with minor offset is apparent. Mineralization in the east northeast fractures includes the lead-zinc sulfides in the original discovery, to which several parallel soil geochemical anomalies were defined. The north northwest zones are infilled with calcite and no base metal soil geochemical anomalies trend in this direction. Fracture control of mineralization did not appear to be present in areas "A" and "B" covered by the 1974 Cyprus Anvil soil geochemical surveys.

## DIAMOND DRILLING

Two holes, 74RR-1 and 74RR-2, totalling 750 feet of BQ size core drilling were completed to test the hypothesis that some of the source of metal found in soil is stratigraphic in origin and to test the nature of this mineralization. Geologic and assay logs are attached to this report.

Hole 74RR-1, located along the north edge of DAGO 3 mineral claim, is in the area of the original mineral show staked in 1951, and about 950 feet to the east of the Casino Silver Mines drilling. This hole was drilled at  $-45^{\circ}$  to the north for a total length of 500' and was located to test a soil geochemical anomaly and the strike extrapolation of the "fracture" controlled mineralization. Material encountered in this hole was: 28 feet of overburden, 438 feet of limestone and shale containing up to 10% sulfides in the cementing material in crackle breccia, and 34 feet of carbonate shale. The best mineralized zone, from 187 feet to 220 feet, assayed 4.14% Zn. Within this 33 foot zone, a 15 foot section from 187 feet to 202 feet, assayed 6.4% Zn. The underlying "shales" showed a significantly lower metal content than the carbonate unit.

The mineralization comprised fine grained sphalerite, which with calcite formed a breccia cement to blocks of carbonate rock and thus was different from the massive sulfides encountered by Casino Silver Mines Ltd.

Hole 74RR-2, located on mineral claim CON 38, tested the strongest geochemical anomaly within Zone "A". This vertical 250.5 foot hole encountered 14 feet of overburden and 236.5 feet of gray limestone. Anomalously high geochemical results were obtained within the top 35 feet of cored rock. None of the values exceeded 0.2% combined lead and zinc. A few galena crystals were found in calcite filled breccia zones at the top of the drill hole and sulfides were scarce in comparison with those seen in 74RR-1.

## CONCLUSIONS AND RECOMMENDATIONS

The 1974 work on the optioned claims corroborated the existence of a large soil geochemical anomaly outside the area of previously known mineralization. The potential "stratigraphic" control of the source of the metals was not proven, but most of the metal values in soils appear to be from a brecciated section at the contact of the Devonian limestone with the underlying Proterozoic buff weathering platy dolomite.

The smaller, narrow, elongate soil geochemical anomalies have common directional trends and are definitely fracture controlled. Soil geochemical anomalies underlain by the limestone are of this type and probably represent upward leakage and possible remobilization of underlying mineralization.

Assay grades from drill core in general are low and are not ore grade at the present time even if the stratiform nature of mineralization is developed.

The zones of fracture "vein" mineralization are of low potential since they are small, lensy, and discontinuous.

Drilling through the limestone to the buff weathering dolomite in an unfractured area would confirm the continuity of observed stratiform mineralization.

Work to date has shown grades are sub-economic although extensive lateral continuity would make this a more attractive prospect.

No further work is recommended by Cyprus Anvil at this time.

Respectfully submitted,

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Uldis Jansons

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J. G. Simpson,  
Exploration Manager

1974 EXPENDITURES

Project #469 - Rackla River Mines Ltd.

01	Salaries and Wages	\$ 6,700.00
02	Acquisition (assessment fees)	806.50
07	Surveying and Mapping	414.80
08	Drilling	14,698.37
11	Assays and Geochemical Analyses	902.20
12	Equipment and Supplies	385.70
13	Camp Costs	985.36
14	Fuel	1,200.00
15	Rotary Wing Charter	8,404.15
16	Fixed Wing Charter	5,255.53
17	Travel	345.18
20	Miscellaneous	<u>230.00</u>
		\$40,327.79
18	Administration (office overhead at 10%)	<u>4,032.77</u>
	TOTAL	<u><u>\$44,360.56</u></u>

# Diamond Drill Record

COLLAR: NORTH <u>4+33N</u>		HOLE SURVEY		
EAST <u>0+00E</u>		FOOTAGE <u>0+00</u>	AZIMUTH <u>N8W</u>	DIP <u>-45°</u>
<del>ELEVATION</del> <u>I. P. Grid</u>				
LOGGED BY <u>U. Jansons</u>				
DATE LOGGED <u>18-20 Aug.</u>				
MAP REFERENCE NO.		METHOD:		

COMPANY NAME Cyprus Anvil Mining Corporation  
 PROPERTY NAME Rackla River Mines  
 DRILLING CONTRACTOR Atled Exploration Management  
 ASSAYER Barringer  
 PURPOSE OF HOLE Geochemistry, Geology test of strike extension of mineralized zone

HOLE NO. <u>RR 74X1</u>
CLAIM NAME <u>DAGO 3</u>
COMMENCED _____
FINISHED _____
PROJECT NO. <u>469</u>

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS (ppm)				BEDDING		
				FROM	TO	WIDTH	NO.	Pb ppm	Zn ppm	Ag ppm	Readings from axis of core			
0	28		Overburden.											
				170	175	5	16401	175	6200	4.4				
28	53		Dolomite, light to medium gray; two stages of fracturing healed	175	176	1	16402	320	30500	11.0			30	-70
			by CaMgCO <sub>3</sub> cementing; bedding - 70° from axis of core.	176	179	3	16403	3700	38000	18.0				
			Occasional traces of shaly sections.	179	187	8	16404	285	4.50	5.2				
			Mineralization: pyrite in occasional small (less than 1/4")	187	189	2	16405	195	84000	46.0				
			blebs. Pyrite was only sulfide noted.	189	198	9	16406	195	49500	24.0				
				198	202	4	16407	760	88000	42.0				
53	68		Limestone; with tr. shale banding. Light and medium gray	202	208	6	16408	3100	27000	20.0				
			CaCO <sub>3</sub> bands and minor shale. Appears to be grading from	208	220	12	16409	400	20000	8.8			50	-70
			28-53' dolomite unit.	220	230	10	16410	400	6500	4.2				
				230	240	10	16411	3300	16000	9.8				
68	86		Dolomite; as 28-53', with addition of brown weathering (ankerite?)	240	257	17	16412	305	21500	5.8				
			bands in short randomly distributed zones. Minor hairline	257	267	8.5	16413	730	34000	21.5				
			fracture filled with unidentified black mineral.	264.5	265.5	1	16414	365	21%	40.0			70	-70
				259.5	260	0.5	16415	4950	25000	15.8				
86	121		Dolomite, light to medium gray without ankerite(?) sections,	267	268	1.0	16416	130	55000	26.5				
			as 28-56'. Not as fractured.	268	269	1.0	16417	4450	22000	10.0				
			Mineralization: Pyrite, sphalerite, galena(?) in fracture filling.	269	278	9.0	16418	630	9500	5.4				
			1) 85 1/2' - 86' Pyrite, sphalerite, galena.	278	284	6	16419	5500	7000	6.2				
			2) 100' - 100 1/2' Fracture fill, mainly calcite and limonite	284	289	5	16420	2700	3750	8.2				





















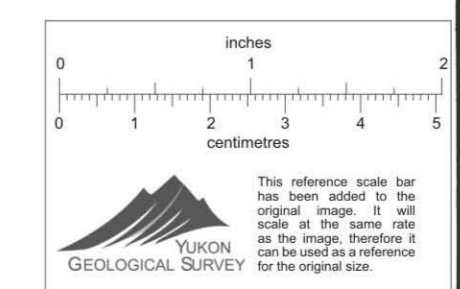
**EXPLANATION**

- 8 Limestone (Devonian)
- 2 Dolomite (Proterozoic?)
- Geological Boundary Inferred
- 250 ppm Zinc Contour
- 150 ppm Lead Contour
- CS-1 Pre 1974 Diamond Drill Hole
- 74-RR-1 Cyprus Anvil 1974 Diamond Drill Hole
- 75, 100 Lead Zinc ppm in Soils

**CYPRUS ANVIL MINING CORPORATION**  
**RACKLA RIVER MINES CLAIMS**  
**SOIL GEOCHEMICAL SURVEY AND**  
**DRILL HOLE LOCATIONS**

Kathleen Lake Area Mayo Mining District, Y.T.

DWG BY: Scale: 1 Inch = 800 Feet  
DATE MARCH 1975 N.T.S. SHEET 106 C 8  
COMPILED BY: A.J. DRAWN BY: C. L. C.



2 Miles to Kathleen Lake