

GEOLOGICAL SURVEY  
 JUN 30 1967  
 Resident Geologist  
 Whitehorse, Y. T.

300.00

April 3, 1967

In account with  
Munster Mines Ltd.

March, 1967.

This report has been examined by  
 the Geological Evaluation Unit.  
 Approved as to technical worth by:  
A.C. Yundt  
 RESIDENT GEOLOGIST

Approved as to cost in the amount  
 of: \$ 300.00  
A.S. Peckham  
 RESIDENT MINING ENGINEER

Accepted as representation work  
 under Section 53(4) Yukon Quartz  
 Mining Act.  
W. Thompson  
 COMMISSIONER OF YUKON **Administrator**

Professional Services

A.R. Archer- preparing two reports on Haines Junction  
 and Pelly Mountains Properties . . . . . \$350.00

Office Expenses

Drafting maps, typing and compiling report,  
 blueprinting . . . . . 92.75

Total \$442.75

AL, Kirk, Fargo Report. 208<sup>00</sup> 50.<sup>00</sup> = 300.<sup>00</sup>  
 HAINES Junction - 100 + 42.<sup>75</sup> = 142.<sup>75</sup>  
 442.<sup>75</sup>

*paid May 1/67*  
*A.A.*



MUNSTER MINES LTD.

AL, FARGO & KIRK CLAIM GROUPS

Anvil - Vangorda District, Yukon

March 1967

Alan R. Archer

Consultant

Vancouver, B.C.

## INTRODUCTION

The writer has not personally visited the Al, Fargo and Kirk claim groups although he has made several aerial reconnaissances over the general area during 1966. Information for this report is derived from the writers familiarity with the Anvil - Vangorda district, sketches and assays submitted by Munster Mines Ltd. and Geological Survey of Canada 1 inch equals 4 miles mapping (Map 13 - 1961).

## LOCATION AND ACCESS

The Anvil - Vangorda district is an area roughly five to ten miles wide and seventy miles long that parallels the Pelly River and more or less follows the Anvil Range of mountains. The property lies 6 miles southwest of the Pelly River from a point 17 miles downstream from Ross River settlement.

The Ross River - Carmacks highway, presently under construction, passes some  $3\frac{1}{2}$  miles south of the property. All-weather access to this point is presently available from Whitehorse, via Ross River Settlement, a distance of about 275 miles. Upon completion of the new highway, the shorter improved route to Whitehorse through Carmacks will be available. Whitehorse is the northern terminus of the White Pass and Yukon Railway that has docking facilities in Skagway, Alaska. Access from the road to the property is by foot or helicopter.

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PROPERTY

The A1, Fargo and Kirk groups comprise a block of 40 contiguous mineral claims bounded on the northwest by the Babe and Do claims. The Do group of claims is owned by Cinola Mines Ltd.

The claims comprising the property are registered in Whitehorse, Yukon, as follows:

NAME	GRANT NUMBERS	OWNER	EXPIRY DATE
A1 1 - 8	Y5746 - Y5753	A. Mercier	May 13, 1967
A1 9 - 16	Y10295 - Y10302	G. Stephen	Sept. 6, 1967
Kirk 1 - 8	Y5754 - Y5761	B. Kirk	May 13, 1967
Fargo 1 - 8	Y10279 - Y10286	J. O'Niell	Sept. 6, 1967
Fargo 9 - 16	Y10287 - Y10294	C. Mease	Sept. 6, 1967

HISTORY

The first significant discovery in the district, the Vangorda deposit, was located in 1953. Now controlled by Vangorda Mines Ltd., a subsidiary of Kerr Addison Mines Ltd., this deposit was proven to contain 9,400,000 tons of ore.

Interest in the area increased in 1965 when Dynasty Explorations Ltd., financed by Cyprus Mines Corporation, located the Faro deposit that has now been proven to contain 40,000,000 tons of open-pit ore. Drilling by Kerr Addison

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during 1966 on their Swim property is rumoured to have located in excess of 10,000,000 tons of ore grade material.

News of the Dynasty discovery in late 1965 resulted in a staking rush that continued until late 1966. The Al, Fargo and Kirk claims were staked to cover a known lead-zinc-silver showing along the southern boundary of the Anvil - Vangorda district. There are no published historical records on this showing and there is little evidence of previous work on the ground.

## GEOLOGY

### Regional

The main structural feature of the district is the Tintina fault that generally follows the Pelly River valley and is believed related to the Rocky Mountain Trench. The ore deposits found in the district occur in a Mississippian sequence of quartz-sericite schists located only on the northeast side of the Tintina fault. These deposits are massive sulfide replacements consisting mainly of pyrite, pyrrhotite and arsenopyrite with ore mineralization consisting of disseminated argentiferous galena, sphalerite and chalcopyrite. Average grades are 3 - 5% lead, 5 - 7% zinc, 1 - 2 ounces silver per ton, 0.25% copper and a trace of gold.

Rock formations southwest of the Tintina fault are considerably older and no Faro or Vangorda type sulfide bodies

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have been found in them. The core of the Anvil Range is composed of granitic rocks and similar, although smaller, granitic stocks are found southwest of the Tintina fault.

Pleistocene valley glaciation has been extensive and the Pelly River valley and lower flanks of the mountains are mantled by thick covers of glacial till. Overburden in the higher areas usually consists of accumulations of detritus composed of broken and decomposed bedrock. Solifluction has been intensified by frost action and much of the district, particularly the north facing slopes, is permanently frozen.

#### Al, Fargo and Kirk Claim Groups

The property is situated on the top and flanks of a northeasterly trending ridge on the southwest side of the Pelly River valley. The Al 9 - 16, and Fargo 9 - 16 claims are more or less covered by glacial till while the remainder of the property is covered by till of local origin. Outcrop is fairly abundant near the top of the ridge.

The property is underlain by a sequence of Cambrian slates, phyllites and impure limestones that strike almost eastwest and dip steeply to the north. A small stock of granodiorite outcrops on the northern side of the ridge about 3,000 feet north of the claims.

The Tintina fault lies about  $1\frac{1}{2}$  miles northeast of the property. A number of prominent linements in the vicinity of the property in a similar attitude to the Tintina

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fault probably represent parallel and associated structures.

### MINERALIZATION

A zone of galena and sphalerite mineralization has been traced approximately 1,000 feet in an eastwest direction across the Kirk 5 and 8 mineral claims. Most of the mineralization is found as float although several exposures have been located and sampled. The pattern of float and exposures suggest several subparallel areas of mineralization in a bedding direction within the overall zone.

A sample from an outcrop of mineralization in phyllite and impure limestone on the west end of the zone (on the Kirk 5 claim) assayed 18.05% lead, 9.0% zinc and 2.2 ounces silver per ton over a width of 36 inches. A second outcrop of mineralization in the phyllites on the east end of the zone (on the Kirk 8 claim) assayed 25.75% lead, 24.15% zinc and 5.4 ounces silver per ton over an 8 inch width. Specimens of mineralization observed by the writer are composed of fine to medium grained galena and light brown sphalerite in a gangue of angular and rounded quartz fragments and nodules.

### SUMMARY AND CONCLUSIONS

Further exploration on the property is definitely warranted. The possibility of finding a significant replacement type ore body exists although the geological setting

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precludes a Faro or Vangorda type deposit.

The area is accessible by road and a tote road could be constructed to the property at moderate cost. If Cyprus brings the Faro deposit into production, a major community with excellent transportation facilities will be located 20 miles from the property.

Initial exploration should consist of soil sample surveys followed by bulldozer trenching of the known showings and targets located by the soil sampling. Geological mapping should be done while sampling.

#### BUDGET

The cost estimate is prepared assuming that:

1. The known area of mineralization and immediate vicinity will be soil sampled on a 200 foot by 200 foot pattern.
2. The remainder of the property, except the sections deeply buried by glacial till, will be soil sampled on a 400 foot by 400 foot pattern.
3. A D8 cat with grapple teeth will be used for trenching during a one month period after the soil sample survey is interpreted.

The soil sampling will have to be done in late June and July and the bulldozing in August. Assessment work is due on 16 of the claims by May 13, 1967 and the assessment expenditure



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for the bulldozing in August to the property in April.

Total estimated costs are:

Stage 1 - Fuel haulage and soil sampling

Cat rental, cost of fuel.....	\$2,000.00
Labour and camp costs.....	4,500.00
Sample analysis.....	1,000.00
Supervision, reports.....	1,000.00
Mobilization.....	<u>500.00</u>
	\$9,000.00

Stage 2 - Bulldozing

Equipment rental.....	\$10,500.00
Assays.....	1,500.00
Camp costs.....	1,000.00
Supervision, reports.....	<u>2,000.00</u>
	\$15,000.00
<u>Total cost.....</u>	<u>\$24,000.00</u>

Respectfully submitted,  
ARCHER, CATHRO & ASSOC. LTD.

Alan R. Archer

Alan R. Archer.

ARCHER, CATHRO & ASSOCIATES LTD.

March 14, 1967.

CERTIFICATE

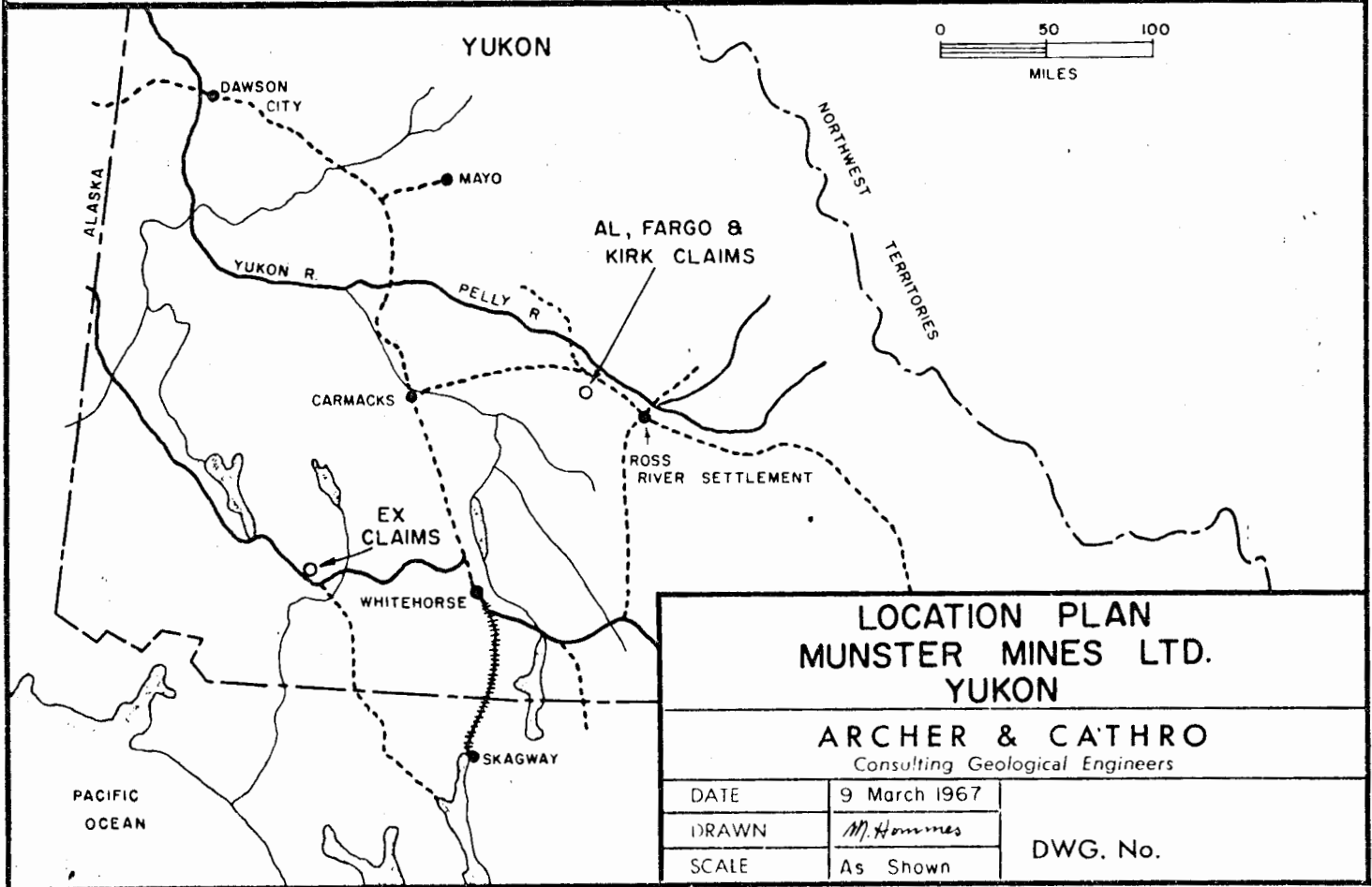
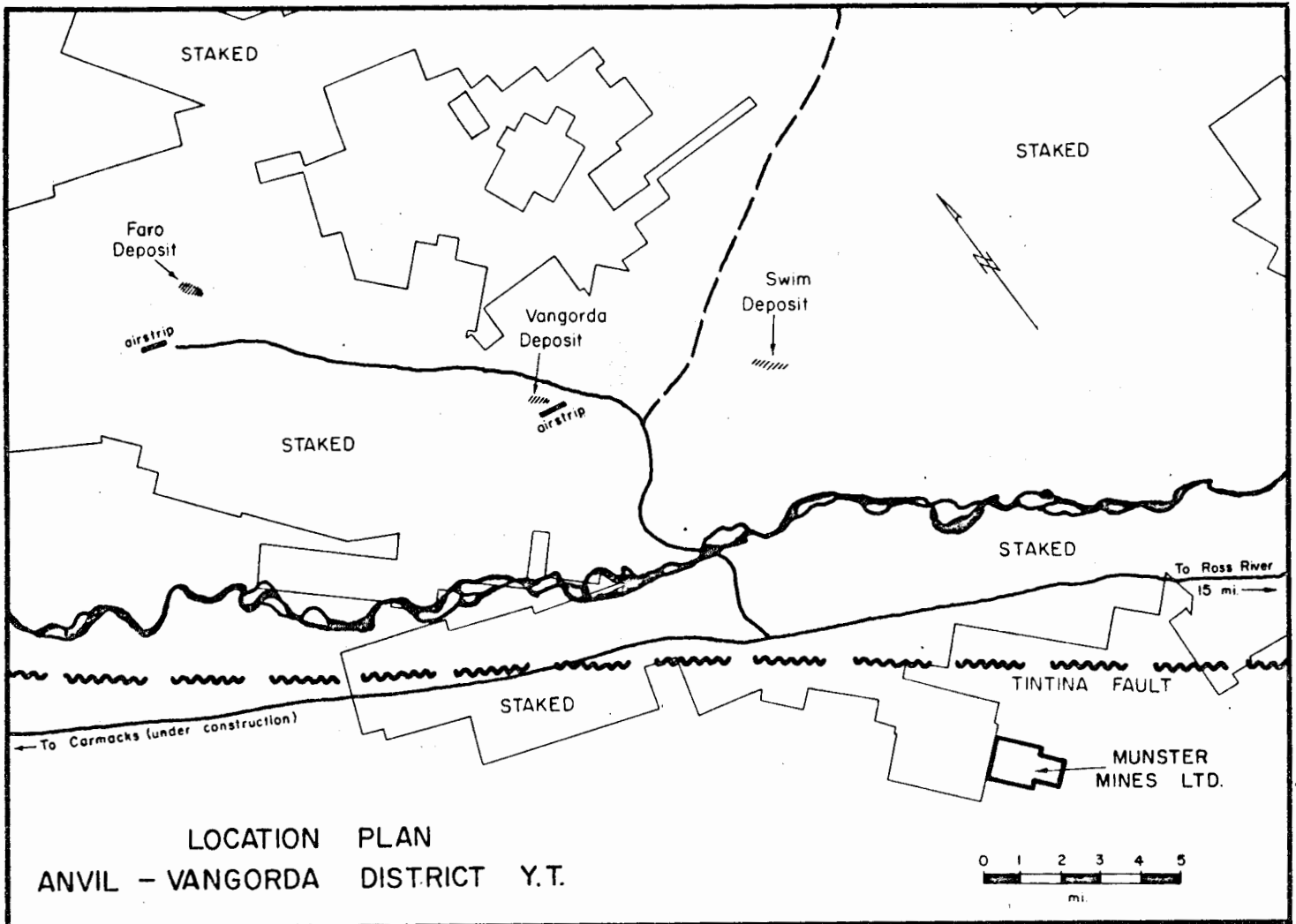
I, Alan R. Archer, with business and residential address in Vancouver, B.C., do hereby declare that:

1. I am a consulting geological engineer.
2. I am a graduate of the University of British Columbia, 1957.
3. I am a registered professional engineer in Yukon Territory and the Province of British Columbia.
4. From 1957 to 1966 I was engaged in mining and mining exploration as a geological engineer for a number of companies. I was chief geologist for United Keno Hill Mines Ltd. when I retired in 1966 to practice as a consulting geological engineer.
5. I have personally studied all maps and data referred to in this report.
6. I have no interest, direct or indirectly or expected in any properties referred to in this report.

Respectfully submitted,

A.R. Archer

A.R. Archer, B.A.Sc., P. Eng.



(BABA GROUP)

Tintina Fault

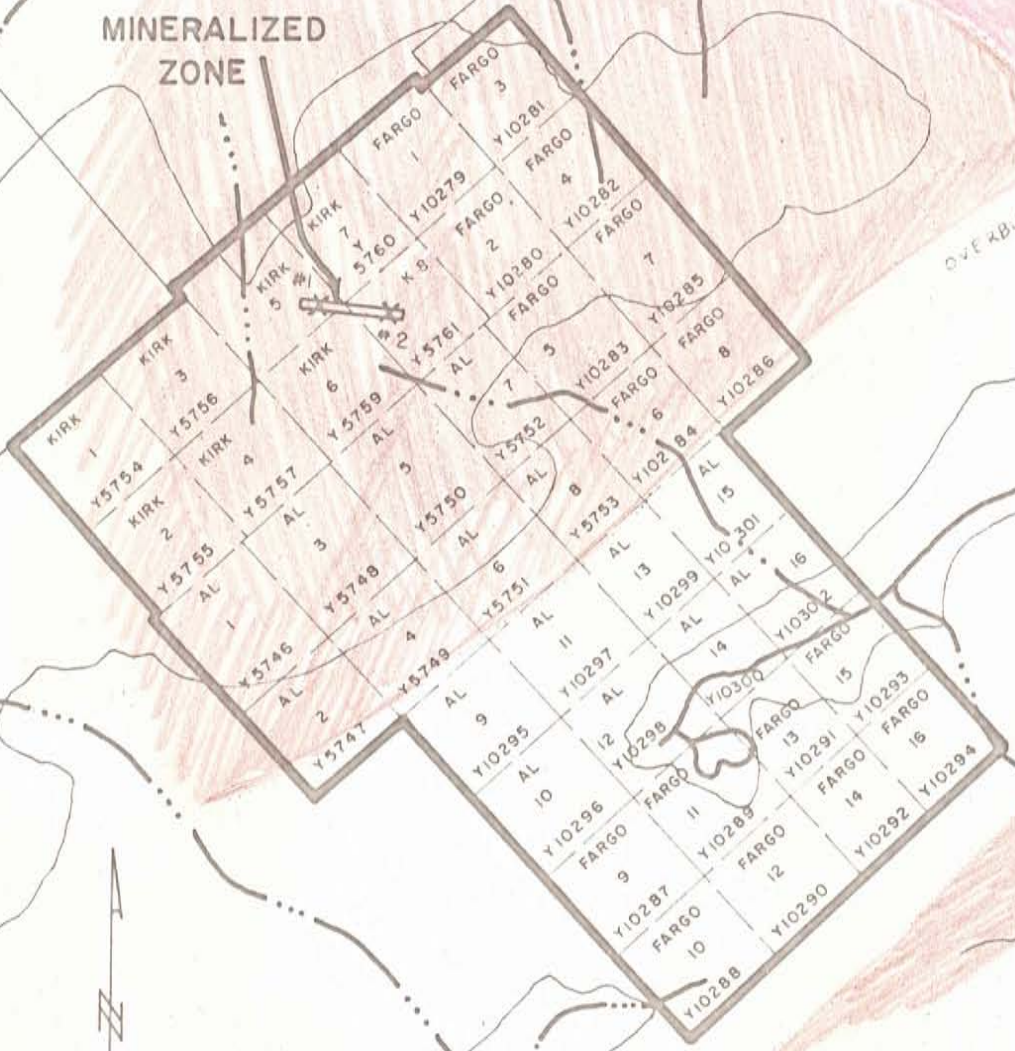
CINOLA  
(DO GROUP)

MINERALIZED  
ZONE

GRANODIORITE  
PHYLITES

OVE ABJAVEN

OVERBURDEN



This map is drawn from information believed to be reliable but individual ownership and exact location are not certified.



# AL, FARGO & KIRK CLAIMS

MUNSTER MINES LTD.  
ANVIL-VANGORDA DISTRICT, Y.T.

## ARCHER & CATHRO

Consulting Geological Engineers

DATE	9 March 1967
DRAWN	<i>M. Amma</i>
SCALE	1" = 1/2 mi.

DWG. No.