PROPOSAL

THE VANGORDA PROJECT

CURRAGH RESOURCES
JULY 10, 1986

PROPOSAL: THE VANGORDA PROJECT

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

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1. The existing Faro mine has a seven year life.

2. Curragh Resources, which has successfully reopened the mine, mill, and town complex at Faro, in the Yukon, proposes to commence development of the Vangorda Plateau. The Vangorda Plateau, which is part of the Anvil District, has several future mines and is located adjacent to Faro. Mining in the Anvil District would be extended from 1993 to the year 2000 and beyond.

3. In order to help fund the large ($100 million - plus) capital program which is required, Curragh proposes that its existing $17.3 million loan agreement with the Government of Canada be supplemented, to permit "recycling" of loan repayments back into the ground on the Vangorda Plateau. Repayment would then be from the Vangorda. Other loan terms would be unchanged.

4. The Vangorda Plateau has three mining projects of immediate development potential: Vangorda (open-pit);
   Grum (open-pit); and
   Dy (underground mine).

5. Grum and Vangorda are very precisely defined, while further underground development work is required at Dy.

6. These three ore bodies contain an estimated 63 million tonnes of geological reserves. This compares with 35 million tonnes of geological reserves remaining in the existing Faro mine.

7. Other Vangorda Plateau ore bodies in the area hold potential for longer-term development.

8. Curragh's long-term objective is to maintain physical output from its Faro-Vangorda Plateau operations sufficient for concentrate output of 500,000 tonne per year, through the year 2000.

9. The existing Faro Pit mill be mined out by 1993, and in the absence of Vangorda Plateau development, the mine and mill complex would then be forced to close.

10. Sound mine planning and economics dictates that work on engineering, access road construction, underground exploration, and preliminary stripping, should begin now _ _ not at the end of Faro Pit life.

11. Vangorda Plateau development (Vangorda, Grum, Dy) will require an estimated 1800 man-years of construction labour.

12. Given today's weak market conditions, and other convenanted demands on project cash flow, Curragh seeks assistance in the form of deferred Federal loan repayment, to the extent that scheduled repayments are "recycled" back into the development of the Vangorda Plateau.

13. Between 1986 and 2000, it is estimated that the Vangorda Project would create about 7500 person-years of employment in the Yukon, over and above the 2600 to 2700 person years created by the mine at Faro.

14. The cost-benefit ratio of the Vangorda Project is very favourable.

15. Estimated wages in the Yukon of almost $300 million would be stimulated by the Vangorda Project.

16. An extra one billion dollars of net exports would be provided by The Vangorda.

17. Direct capital spending of about $132 million would be created by the Vangorda.

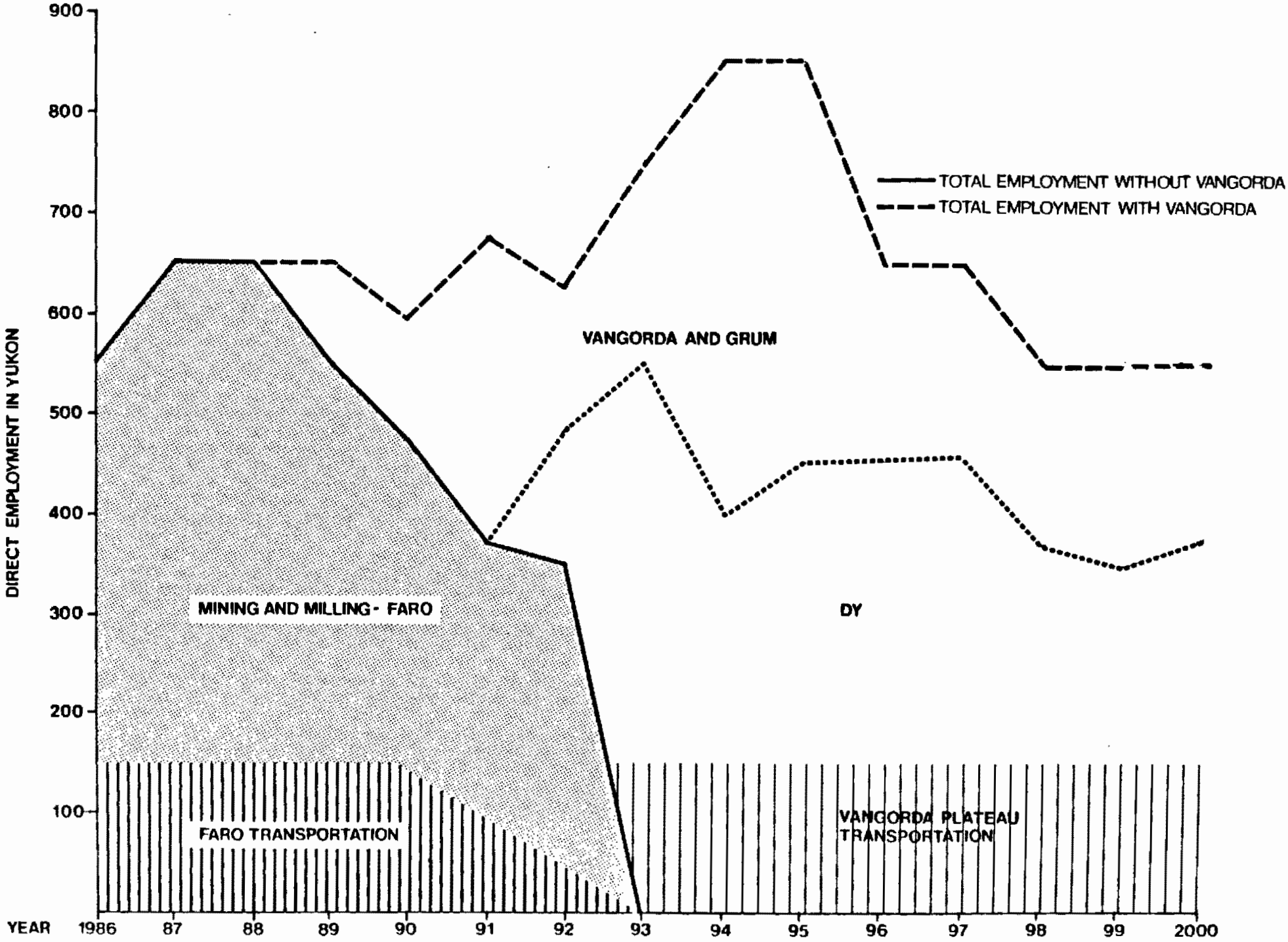
18. Tax, royalty, and hydro revenue for Government in the range of $140 million would be created by the Vangorda.

19. The social cost and human trauma of another mine shutdown, involving the Yukon's second largest community, would be avoided.

20. Curragh proposes a simple three-page amendment to its existing stripping loan agreement. All dollars of cash flow previously due and payable to the Government of Canada under the DIAND Agreement ,would now be used by Curragh in the development of the mining project at Vangorda Plateau.

21. The agreement between Curragh Resources and the Government of Canada, made on November 22, 1985, should be amended so that any reference to loan repayment from positive cash flow shall refer to the cash flows from the mining development of the Vangorda Plateau, instead of the Faro Mine.

22. No new cash commitment by Government is requested, merely the recycling and deferred repayment of old loans made to Cyprus Anvil several years ago.


900
800
700
600
500
400
300
200
100
DIRECT EMPLOYMENT IN YUKON
TOTAL EMPLOYMENT WITHOUT VANGORDA
TOTAL EMPLOYMENT WITH VANGORDA
VANGORDA AND GRUM
DY
MINING AND MILLING - FARO
FARO TRANSPORTATION
VANGORDA PLATEAU
TRANSPORTATION
YEAR
1986
87
88
89
90
91
92
93
94
95
96
97
98
99
2000

2.0 GEOLOGICAL ASSESSMENT

2.0 GEOLOGICAL ASSESSMENT

The Vangorda Project involves the development of three new lead-zinc mines on the Vangorda Plateau in the Yukon. The Vangorda Plateau is located east of the existing Faro open-pit mine and in the Anvil Range District which is rich in zinc, lead and silver.

Between 1965 and 1982, approximately $50 million was invested by Cyprus Anvil Mining Corporation, and its predecessors, in the exploration and delineation of these large ore bodies. Thus, there is today a relative abundance of geological information.

Three large ore bodies have been identified. These are: Vangorda, Grum and Dy. These ore bodies are described later in this report. Other anomolies on the Vangorda Plateau and in the Swim Basin have been found. For immediate development are the three ore bodies closest to the Faro concentrator: Vangorda, Grum, and Dy (all within a 10 to 15 km range of the concentrator). Curragh's plan is to commence development of these deposits now, so that ore supply to the Faro concentrator can be sustained beyond 1993, when the existing Faro pit will be fully depleted.

On a combined basis, Curragh Resources controls in excess of 60 million tonnes of geologic reserves on the Vangorda Plateau. These reserves together with the current Faro reserves and the other potential reserves in the Anvil District should ensure mining in the region for at least 25 years.

The Anvil Range

The Anvil Range Zn-Pb-Ag District is located in the central Yukon Territory near the town of Faro (figure 1). The district contains one of the world's largest reserves of lead and zinc in several deposits (figure 2) including the recently re-opened Faro mine. This ore can support mining activities in the Anvil District for many years following the exhaustion of the Faro deposit. Most of these deposits are within economical haulage distance from the Faro concentrator. (figure 3).

Regional Geology

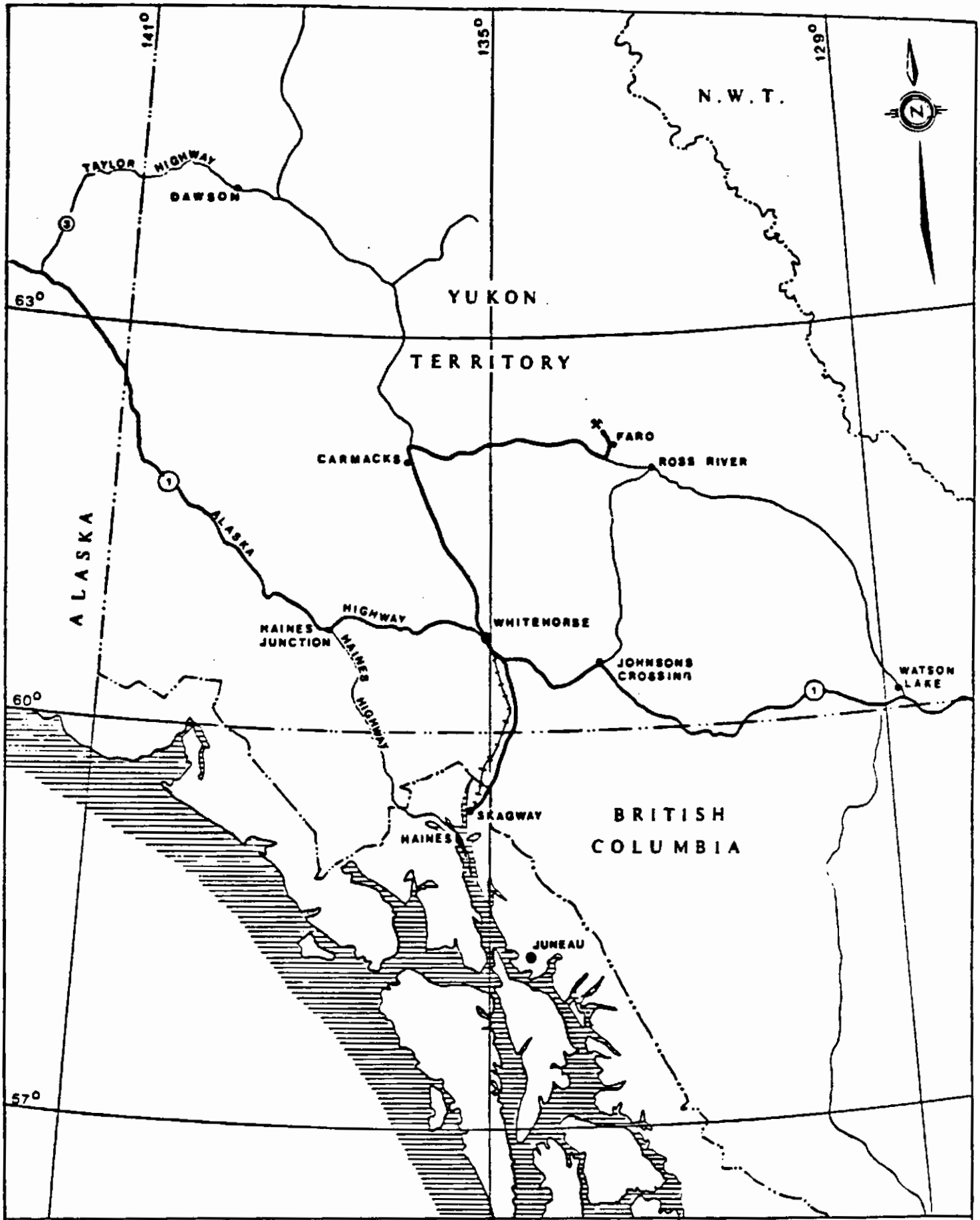
The Anvil District is part of the Selwyn Basin, (figure 4) a large area of central Yukon where deep water shales accumulated along the ancient North American continental margin during the Paleozoic. The shales of the Selwyn Basin host most of Canada's large stratiform lead-zinc deposits, making it a metallogenic province of world wide significance.

The Anvil District differs from the remainder of the Selwyn Basin because the rocks and ore deposits are metamorphosed and significantly recrystallized. This has resulted in coarser grain size with improved metallurgical response. This geologic factor, along with the size of the Faro deposit and its location, have combined to determine that Faro is as yet the only producer of the Selwyn Basin.

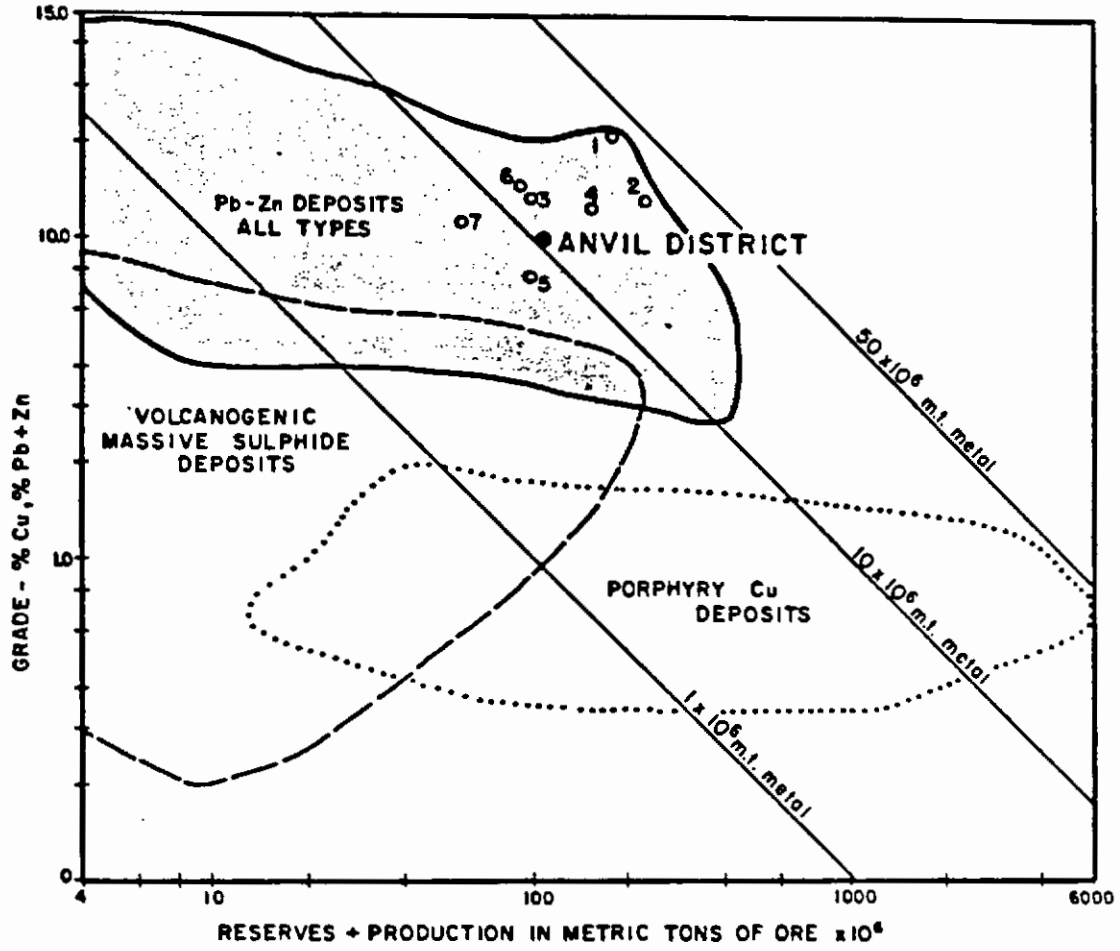
District Geology

The Anvil Range is underlain by lower Paleozoic metasedimentary and metavolcanic rocks divisible into three formations (figure 5). The oldest of these formations is the Mount Mye formation consisting of non-calcareous schist and phyllite derived from shales. The Mount Mye is of lower Cambrian age and on the order of two kilometers thick.

The Mount Mye is overlain by the Vangorda formation, largely calcareous phyllite and calc-silicate derived from calcareous shale and siltstone.



TITLE: FARO MINE LOCATION PLAN		SECTION:	
KILBORN ENGINEERING (B.C.) LTD.		AREA NO:	REV. NO:
CLIENT: CURRAGH RESOURCES CORP. FARO, YUKON	PROJECT NO: 3509-15	DRAWING NO: FIGURE 1	A
APPROVED:	DATE: JULY 15, 1985		



1 BROKEN HILL, AUSTRALIA

2 MACARTHUR RIVER, AUSTRALIA

3 MT.ISA, AUSTRALIA

4 SULLIVAN, CANADA

5 HOWARDS PASS, CANADA

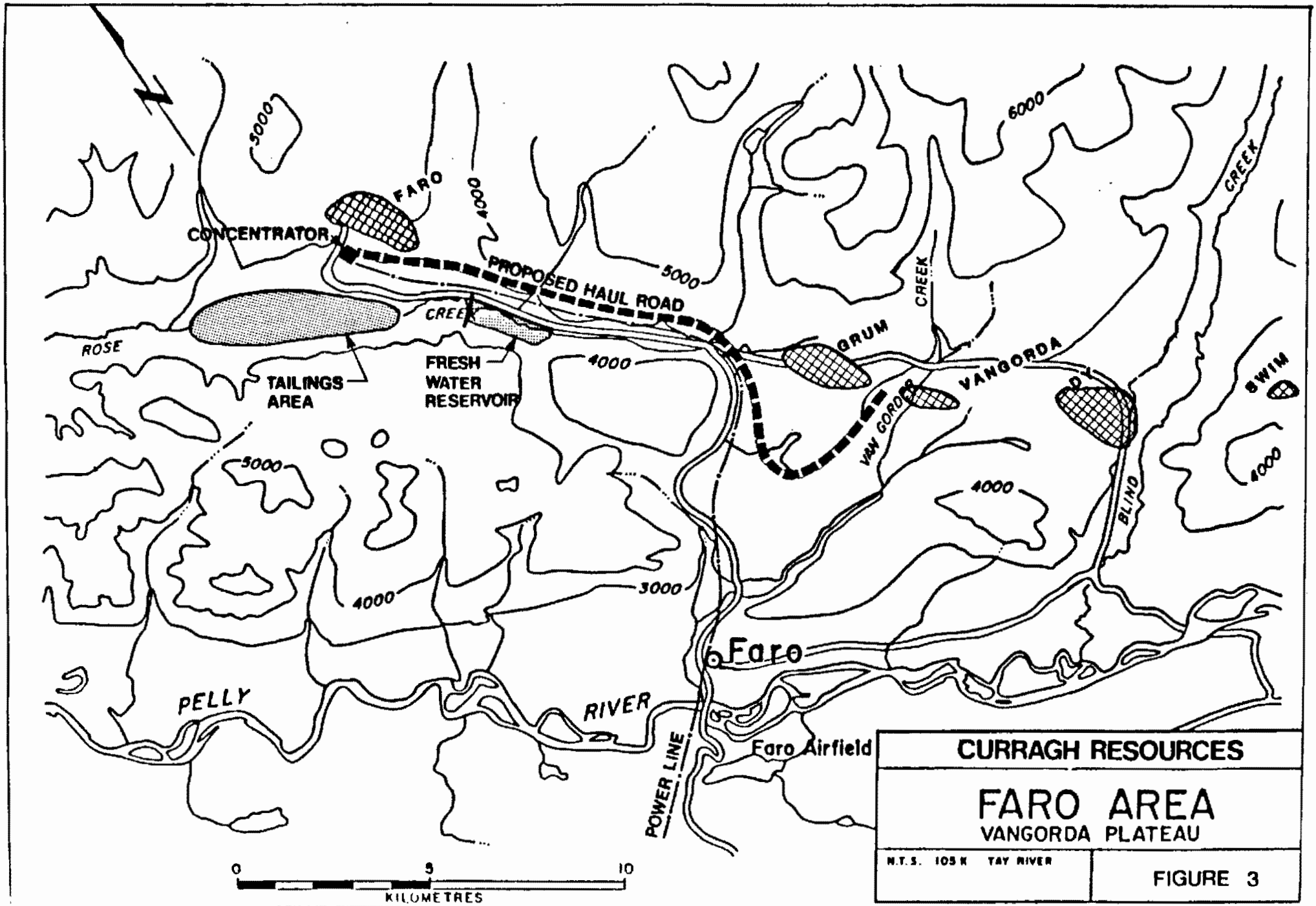
6 RED DOG, ALASKA

7 MEGGAN, WEST GERMANY

FIGURE 2

COMPARISON OF SIZE GRADE CHARACTERISTICS OF SOME MAJOR LEAD-ZINC DEPOSITS

JUNE 1986


5000
FARO
4000
6000
CREEK
CONCENTRATOR
PROPOSED HAUL ROAD
5000
CREEK
GRUM
CREEK
ROSE
TAILINGS AREA
FRESH WATER RESERVOIR
4000
VANGORDA
VAN GORDER
SWIM
4000
5000
4000
BLIND
3000
Faro
PELLY
RIVER
POWER LINE
Faro Airfield
0
5
10
KILOMETRES
CURRAGH RESOURCES
FARO AREA
VANGORDA PLATEAU
N.T.S. 105 K TAY RIVER
FIGURE 3

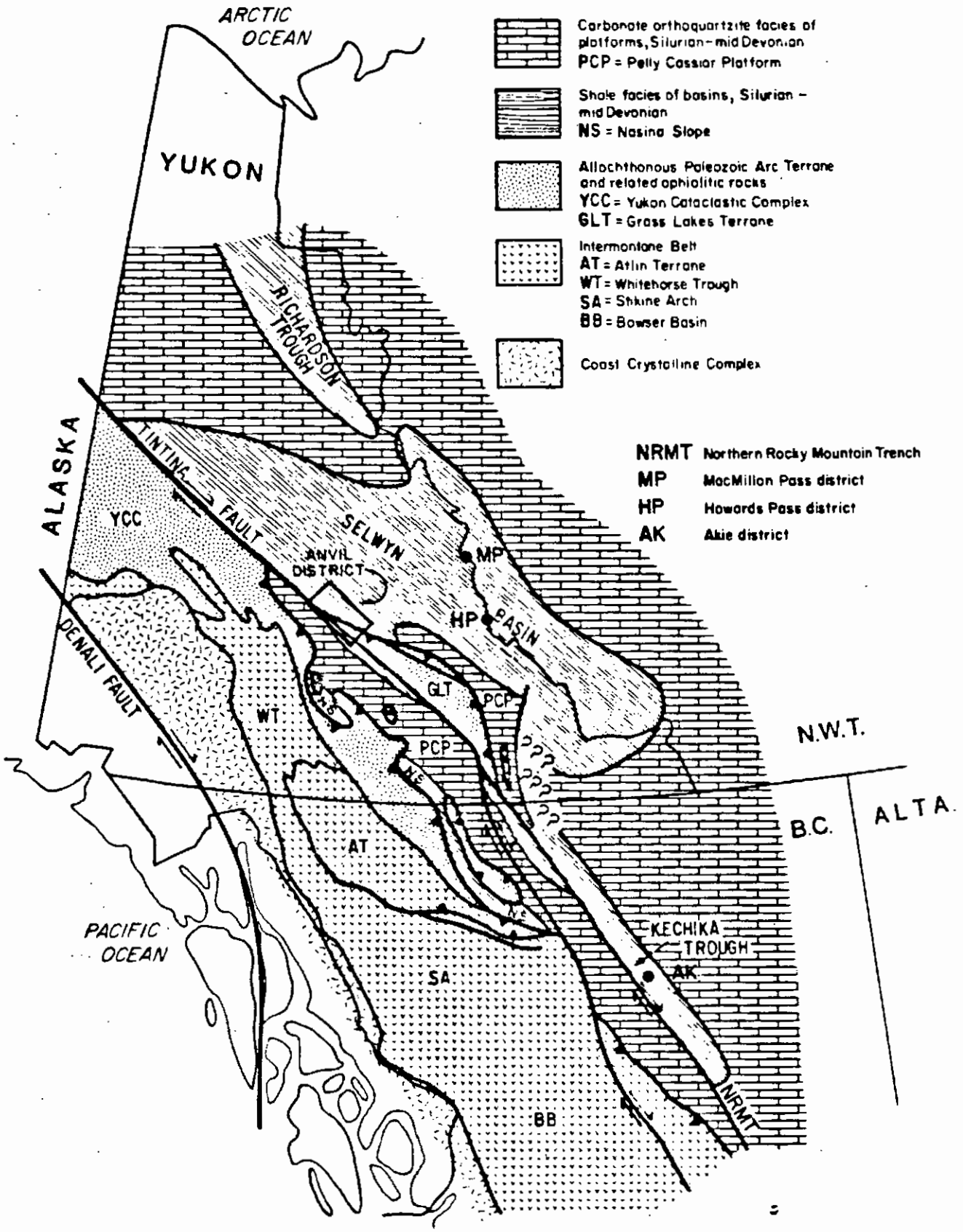

ARCTIC OCEAN
YUKON
ALASKA
RICHARDSON TROUGH
TINTINA FAULT
YCC
SELWYN BASIN
ANVIL DISTRICT
MP
HP
DENALI FAULT
WT
GLT
PCP
N.W.T.
B.C.
ALTA.
AT
PACIFIC OCEAN
KECHIKA TROUGH
AK
SA
BB
NRMT
Carbonate orthoquartzite facies of platforms, Silurian–mid Devonian
PCP = Pelly Cassiar Platform
Shale facies of basins, Silurian – mid Devonian
NS = Nasina Slope
Allochthonous Paleozoic Arc Terrane and related ophiolitic rocks
YCC = Yukon Cataclastic Complex
GLT = Grass Lakes Terrane
Intermontane Belt
AT = Atlin Terrane
WT = Whitehorse Trough
SA = Stikine Arch
BB = Bowser Basin
Coast Crystalline Complex
NRMT Northern Rocky Mountain Trench
MP MacMillon Pass district
HP Howards Pass district
AK Alkie district

FIGURE 4

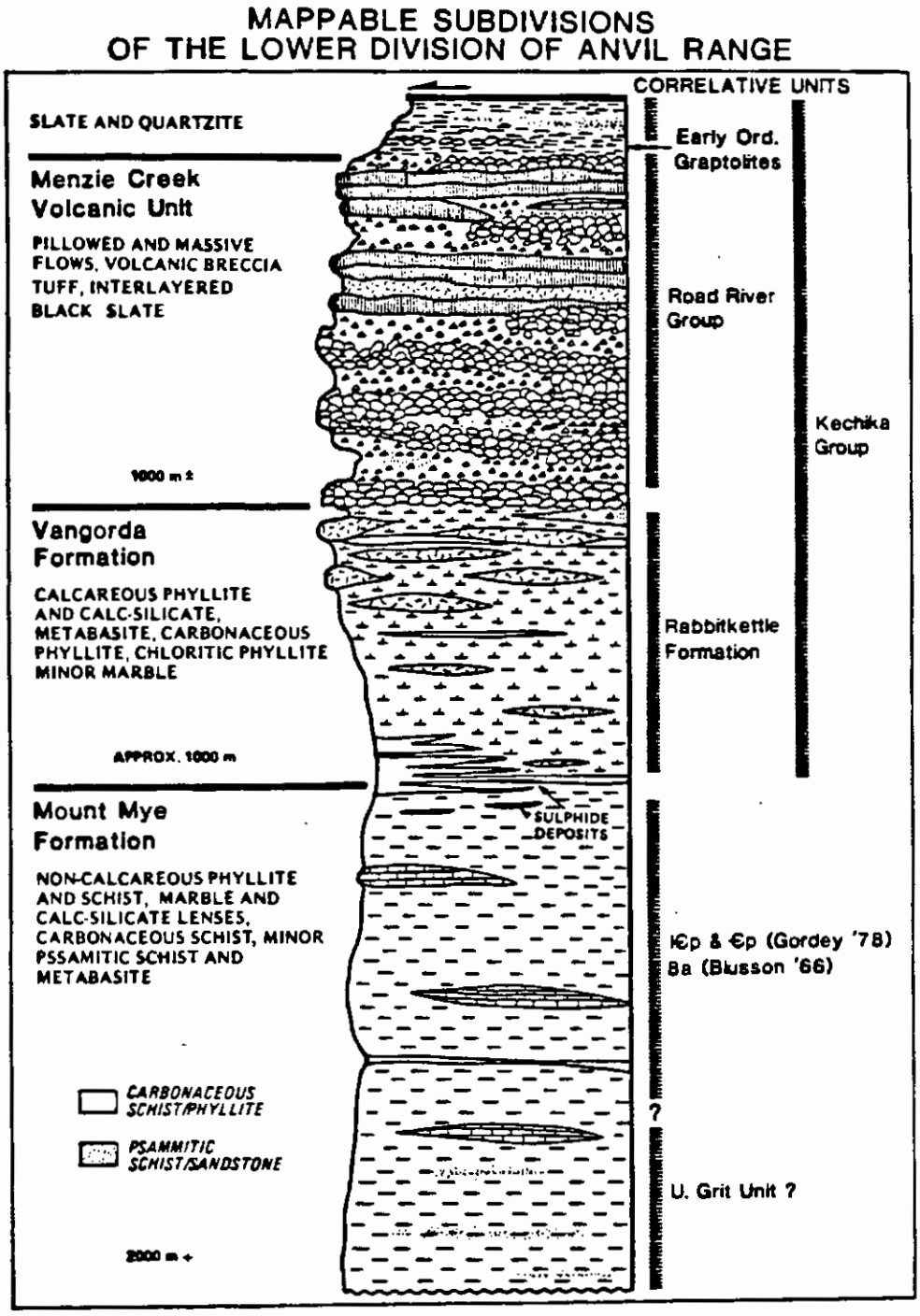


Figure 5. Diagramatic stratigraphic section of the lower Paleozoic of Anvil Range showing the ore deposits in relation to stratigraphy. Note that the bulk of the metavolcanics or metabasites are younger than the ore deposits but that the deposits are approximately coincident with the first appearance of substantial mafic igneous material in the section. Note also the anomalous thickness of carbonaceous rocks near the ore deposit trend.

The Vangorda formation is of upper Cambrian to lower Ordovician age and is about one kilometer thick.

The Menzie Creek formation, consisting of about one kilometer of metabasalt and graphitic shale, overlies the Vangorda. The Menzie Creek formation is in turn overlain by several additional units. However, it is only the lowest units that are of importance for lead-zinc mineralization.

The ore deposits of Anvil District are stratiform and stratabound to an approximately 150 meters thick interval straddling the contact of the Mount Mye and Vangorda formations. The deposits consist of one to five sheets of sulphide mineralization stacked one above the other within this interval.

The structural and metamorphic history of the Anvil Range is complex and of considerable significance to the form and nature of the ore deposits. During mid-Mesozoic, the district suffered two periods of intense fold deformation and concurrent metamorphism during which the gross structure of the ore deposits was determined. Three later, less intense periods of folding and associated faulting followed. During the waning stages of this deformation sequence a large body of granite to granodiorite (Anvil Batholith) was intruded into the metamorphic sequence. Intrusion of the Anvil Batholith further deformed the metamorphic sequence so that the overall structure of the district is an elongated dome covered by the Batholith (Figure 6). In the later stages of batholith emplacement large extensional fault displacements occured. These faults determine the present day limits of several of the deposits.

Metamorphic isograds are roughly concentric about the Anvil Batholith. Thus, deposits like Faro, close to the Batholith (Figure 6), are strongly metamorphosed, while deposits such as Grum only weakly metamorphosed. This difference in metamorphism is reflected in grain size and the degree of mineral intergrowth which has a significant impact on metallurgical response of Anvil district ores.

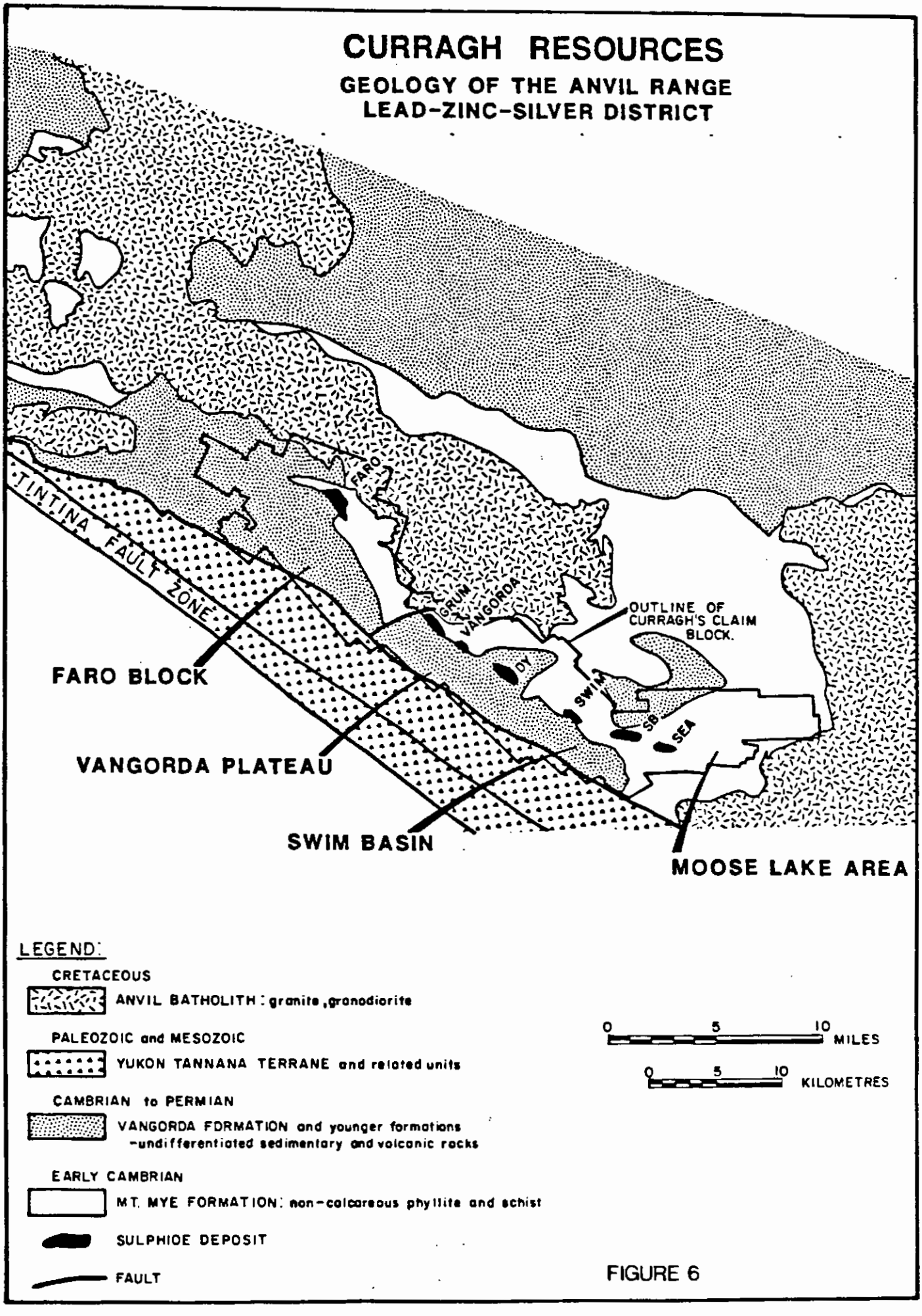

CURRAGH RESOURCES
GEOLOGY OF THE ANVIL RANGE
LEAD-ZINC-SILVER DISTRICT
TINTINA FAULT ZONE
FARO
GRUM
VANGORDA
DY
SWIM
SB
SEA
OUTLINE OF CURRAGH'S CLAIM BLOCK.
FARO BLOCK
VANGORDA PLATEAU
SWIM BASIN
MOOSE LAKE AREA
LEGEND:
CRETACEOUS
ANVIL BATHOLITH: granite, granodiorite
PALEOZOIC and MESOZOIC
YUKON TANNANA TERRANE and related units
CAMBRIAN to PERMIAN
VANGORDA FORMATION and younger formations -undifferentiated sedimentary and volcanic rocks
EARLY CAMBRIAN
MT. MYE FORMATION: non-calcareous phyllite and schist
SULPHIDE DEPOSIT
FAULT
0 5 10 MILES
0 5 10 KILOMETRES

FIGURE 6

The ore deposits of the Anvil Range were originally one or more sheets of massive and disseminated sulphides parallel to bedding of the host sediments. These sheets showed strong vertical and lateral zonation of ore types. In a given sheet, the central and upper ore type consisted of barite-bearing massive sulphides. It was underlain and surrounded by non-baritic pyritic massive sulphides which in turn was underlain by pyrite rich quartzites. The lowest and most distal ore type is a black, carbon rich, banded, pyritic quartzite.

These sulphide sheets or horizons have since been deformed into complex fold structures. Thus, the deposits are elongate parallel to the fold axes and associated lineations in the host metasediments. The Faro deposit, which appears to be an exception to this generalization, actually shows great internal complexity in the geometry of high grade and waste layers.

The simple arrangement of the ore types in the ore horizons is important since lead-zinc grade and metallurgical performance varies by ore type. The baritic massive sulphides are always high grade, easily grindable and yield good grade concentrates with good recoveries. On the other hand the lower and distal graphitic quartzites are commonly low grade, hard and commonly produce lower grade concentrates. Other ore types exhibit intermediate characteristics and performance.

The deposits of the Anvil Range fall along a well defined curvilinear trend (Figure 6). Despite exploration off the trend, no additional deposits have yet been found. The curvilinear trend coincides with changes in the thickness of a graphitic member at the base of the Vangorda formation. This favourable trend is thought to reflect the locus of an ancient fault along which ore forming fluids escaped to the sea floor through submarine hot springs, precipitating the sulphide sheets on the sea bed. Whatever the origin of the favorable trend maybe, this simple empirical observation remains the single most valid prospecting tool in the Anvil District.

The Existing Faro Deposit

The Faro deposit was discovered in 1964 by drilling airborne electromagnetic anomalies supported by other indications. Mining at Faro began in late 1969 and continued until 1982 when high costs and falling prices forced temporary closure of the mine.

In November 1985, Curragh Resources bought the Faro mine and other deposits in the Anvil District from Cyprus Anvil Mining Corporation. Waste removal from the Faro pit resumed in January 1986. The Faro concentrator resumed production in June 1986.

Before mining, the existing Faro deposit was 2000 m along strike, 800 m across strike and about 70 m thick. The deposit is a flat-lying, elongate, asymmetric lens with a thick northeast side and a thin tapering southwest side. The deposit is cut by several important faults which form a graben structure, the mined out zones 1 and 2 were the upthrown blocks, and zone 3 was the central graben. Zone 3 contains the remaining reserves.

The Faro deposit was drilled off on 43 m spaced sections with holes spaced nominally at 43 m along the sections. Most holes were vertical.

The pre-mining geological reserves were 57.6 million tonnes at 3.4% lead and 5.7% zinc. Between 1970 and 1982, 32.9 million tonnes of ore was processed in the mill. After previous mining operations and with some reserve appreciation, the remaining geological reserves are approximately 35.2 million tonnes at 3.1% lead, 4.7% zinc, and 38 gm/tonne silver (4% Pb-Zn cutoff). Current pit reserves (undiluted at a 6% cutoff) are 15.6 million tonnes at 3.65% lead, 5.45% zinc and 45.9 gm/tonne silver.

Ore type zoning is particularly strong at Faro. It follows the scheme outlined above with a massive variably baritic upper portion and a quartzose variably carbonaceous lower part (figure 7). In addition there is a prominent very low grade semi-massive zone along the northeast edge of zone 3 and unusually abundant (compared to other Anvil District deposits),

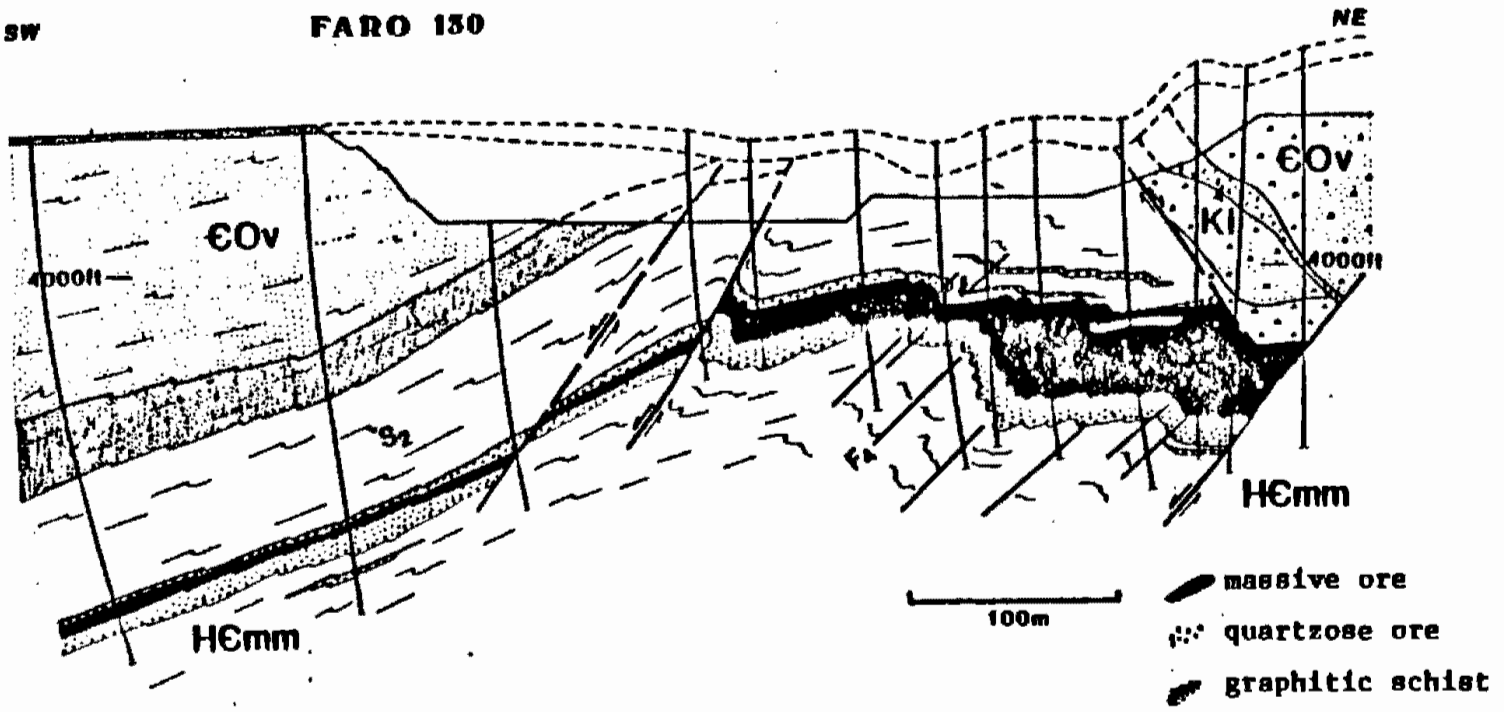


Figure 7. Cross section 130 through the southeast end of Faro zone 3. The pit outline shown is the present outline (as of June 1982 at suspension of mining). The faults are part of the Big Indian Fault set that separated zone 2 from zone 3, they are normal faults and cut across the section at a small angle. The triangular symbols at the northeast end of the section indicate the "breccia cap", a large body of post metamorphic breccia apparently formed by explosive activity during dyke emplacement.

but erratically distributed, pyrrhotic mineralization in the southwest part of the deposit. Grade zoning follows ore type zoning so that the base and northeast edge of the deposit contains the lower grade mineralization whereas the upper and southwest portion contains the higher grade mineralization.

Within the "down-dip tail" southwest of the zone 3 pit (figure 7) preliminary drilling has outlined approximately 2 million tonnes of mineralization averaging 5.2% lead, 2.3% zinc and 74 g/tonne silver (7% combined grade cutoff, in-situ reserves). With additional detailed drilling the tonnages of this reserve could be enlarged, depending on local structure. This part of the deposit can be accessed by ramping from the bottom of the zone 3 ultimate pit.

Vangorda Plateau Deposits

There are at least three ore bodies on the Vangorda Plateau remaining to be developed:

1. The Grum Deposit

The Grum deposit was discovered in 1973 by drill testing on a gravity anomoly in the area down fold plunge from Vangorda along the favorable trend of deposits. The Grum deposit consists of three to five layers of massive and disemminated sulphides contorted into a complex, plunging, polyphase fold structure (figure 8). The individual sulphide layers are up to 30 m thick but mostly are 15 m or less thick. They are separated by significant intervals of waste phyllite. The deposit has been traced through a 2000 m by 500 m area by drilling. Only a 700 m portion of this strike length has been drilled in detail.

There are approximately 400 drill holes in the deposit. Where least densely drilled, the hole spacing is at least 30 m x 60 m. However, the core of the deposit is drilled on an approximately 15 m x 15 m

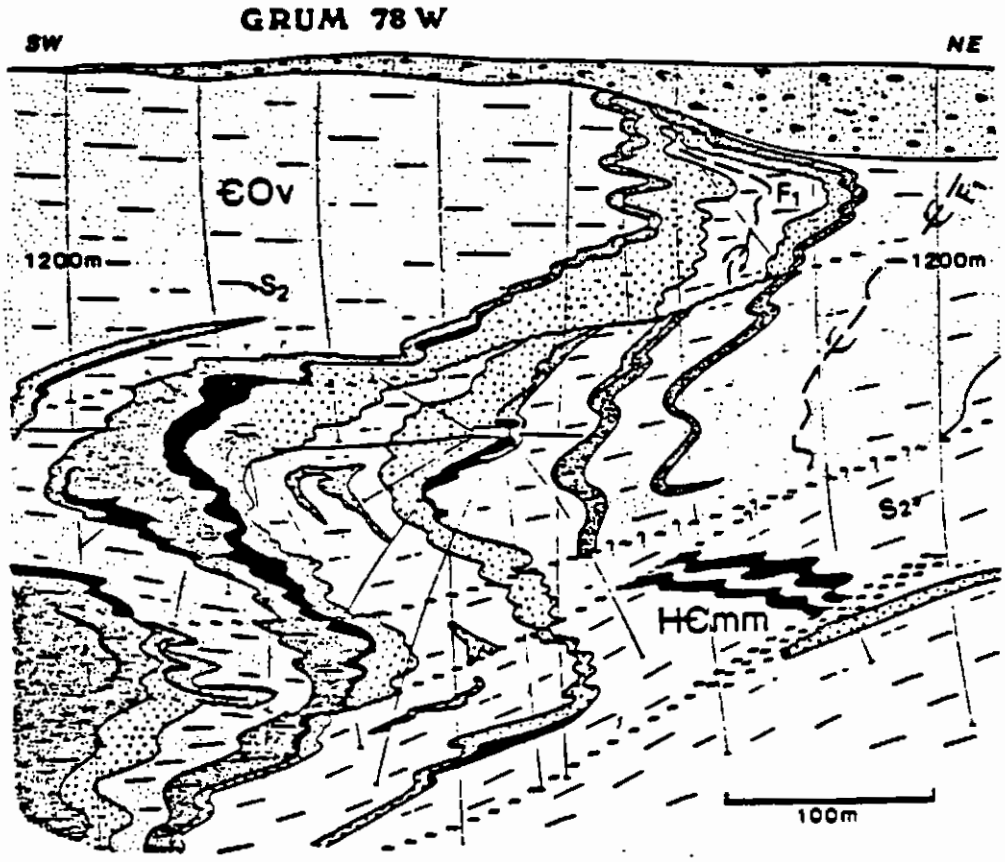


Figure 8. Cross section 78 W through the Grum deposit. The deposit forms a complex D_1/D_2 interference pattern which, despite the density of drilling, is not yet completely resolved. The faults appear to have slip lines directed across the plane of the cross section such that they "telescope" different deposit domains and appear not to make good sense on an individual section. The F_1 closure just beneath the overburden is confirmed on several densely drilled sections to the northwest down fold plunge.

massive ore

quartzose ore

graphitic phyllite

spacing. A 700 m strike length of the deposit has been explored by a pair of inclines (totalling 2900 m) from which extensive underground drill fans have defined the core of the deposit on an approximately 15m x15m spacing.

Grum is the best drill-defined deposit of the Anvil District. Approximately $20 million has been expended since 1973 on the deposit. This work has defined a undiluted geological reserve based on a sectional calculation of 32.6 million tonnes averaging 3.5% lead, 5.7% zinc and 59 gm/tonne silver.

Several studies on possible open pits for the Grum deposit were carried out by previous owners of the deposit. These pits which differ in size contain from 16 to 28 million tonnes of ore depending on design. The same sectional calculation noted above, at a 4% Pb + Zn cutoff, resulted in 17.4 million tonnes at an average grade of 3.4% lead, 5.9% zinc and 59 gm/tonne (undiluted) within a pit of average stripping ratio 2.91 cu.m./tonne (8.00 tonnes waste/tonne ore). The larger pit wiill have a strip ratio of 3.27 cu.m./tonne (8.5 tonnes waste/tonnes ore). An undetermined amount of underground reserves would remain after open pit mining was complete, the size of which will depend on which pit is mined.

In addition to the geologic reserves noted above, there is potential for approximately 8 million tonnes of reserves down the fold plunge from the area best defined by drilling.

Only minor additional work is required before mining can commence at Grum. The portion of the deposit mineable by open pit requires no further definition drilling. However, several geotechnical holes are needed in areas of waste to define slope stability parameters.

A new computer model of the Grum deposit is now being developed by Curragh Resources to guide open pit mining development of the Grum deposit.

Grum, and all the other deposits of the Vangorda Plateau, have several characteristics that distinguish them from Faro. In large part this is due to the metamorphic grade the deposits have reached. The most obvious difference is a finer grain size and more complex mineral intergrowth, necessitating finer grinding than Faro ores. Cyprus Anvil Mining Corporation had already made modifications to its mill to accomodate this fine grind, prior to shutdownin 1982. These mill modifications entailed some $50 million, all in preparation for Grum.

At a given cutoff grade, ores at Grum are higher grade than those remaining at Faro, particularly in precious metals relative to base metals. The average gold content at Grum is not precisely known but statistical comparisons of Grum ore assays to Vangorda and Dy assays suggest that the average grade of gold in Grum will be in the range 0.7 to 1.0 gm/tonne. Similarly, other elements that tend to be geochemical associates of gold, mercury and arsenic, tend to be higher at Grum. The sphalerite at Grum, and likely other Vangorda Plateau deposits, is richer in zinc due to lower metamorphic grade and resulting lesser iron content.

The most outstanding difference between Grum, and all the other Vangorda Plateau deposits and Faro, is the form of the deposit. All deposits other than Faro consist of several distinct, highly contorted horizons separated by barren phyllite waste, whereas Faro has one thicker horizon in outline. This implies that dilution will be higher at Grum than at Faro. However, Grum's higher grade if diluted at 3 times the historical 5% dilution at Faro still gives Grum a higher average grade.

A feature unique to Grum among the Vangorda Plateau deposits is the relative abundance of quartzose ore types, particularly carbonaceous pyritic quartzites. This is partly the reason silver content is high at Grum since it is a characteristic of this ore type. It will undoubtedly create challenges for maintaining good lead concentrate grades.

2. The Vangorda Deposit

This is the deposit which gave its name to the entire Plateau. The Vangorda deposit (figure 9) was the initial discovery in the Anvil Range. It was first drilled off from 1953 to 1955 by Prospectors Airways, a predecessor organization to Kerr Addison Mines after purchasing the deposit from Kerr Addison in 1979. Cyprus Anvil redrilled the Vangorda deposit between 1979 and 1981 because of poor recoveries and uncertain assays derived from the earlier work. There are now approximately 100 holes defining the deposit on a 30 m x 60 m grid.

The deposit has been traced over an area of 1000 m x 200 m. The best mineralization in the deposit is quite shallow, in most places subcropping beneath glacial till.

The diverse drilling of the Vangorda deposit over the past thirty years has lead to a patchwork treatment of the reserve estimate for the overall deposit. Thus it is somewhat difficult to give precise geological reserves. A geological reserve of 9.1 million tonnes at 3.1% lead, 3.9% zinc and 45 g/tonne silver (undiluted, 3% Pb & Zn cutoff) is judged to be the best current estimate available.

Several open pit studies have been made of Vangorda by the previous owners. Because of different approaches taken to the geometry of the deposit, these studies have given varying results. A shallow pit extracting only the highest grade mineralization was designed by Kerr Addison during their ownership. This pit contained 3.1 million tonnes of 3.6% lead, 6.4% zinc and 69 gm/tonne silver with an average stripping ratio of 1.21 cu.m./tonne (3.33 tonnes waste/tonne ore). A larger pit designed by Cyprus Anvil contained 5.4 million tonnes of ore at 3.6% lead, 4.4% zinc and 50.0 gm/tonne silver at a stripping ratio of 4.7 cu.m./tonne (12.9 tonnes waste/tonne ore) in the northwest part of the deposit.

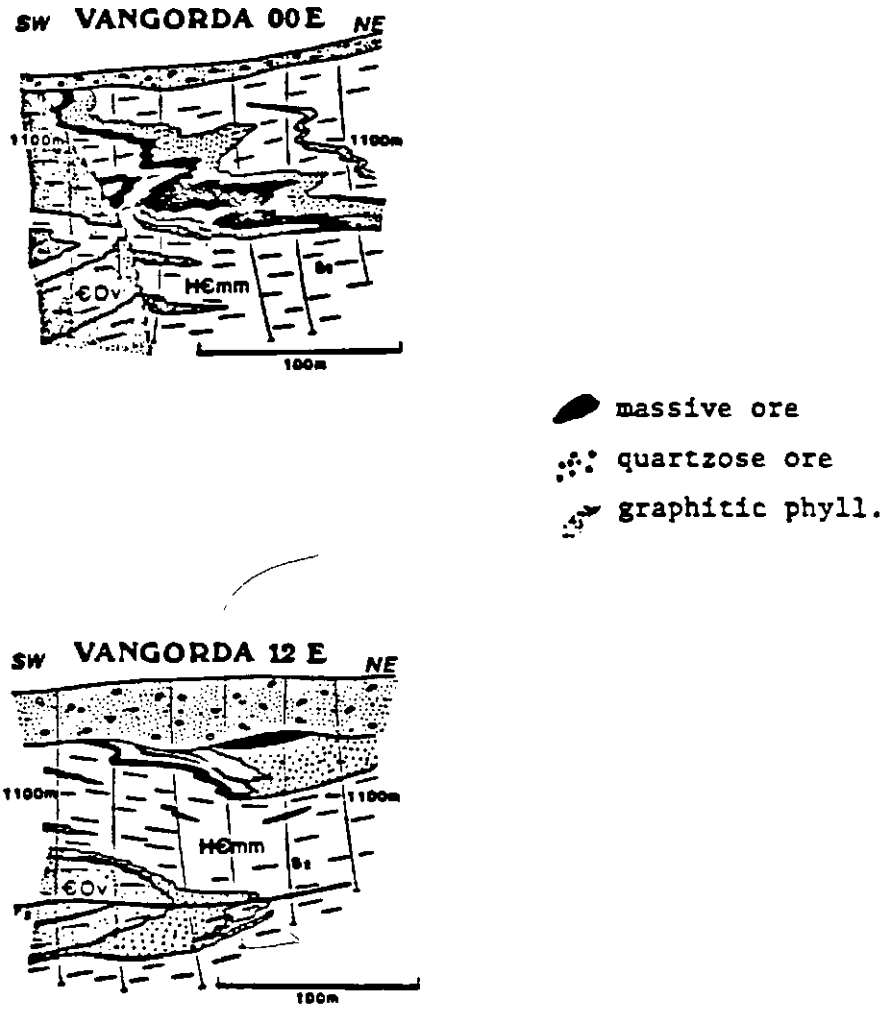


Figure 9 Cross sections 0E and 12E through the Vangorda deposit.

FIGURE 9

A new computer model of the entire Vangorda deposit is being developed by Curragh. This evaluation will include both Cyprus Anvil data and the most reliable Prospector Airways drilling data. This model will produce a better geological reserve for the deposit and will provide the basis for a new pit design.

Previous Cyprus Anvil evaluations of Vangorda have tended to diffuse the grade of ore more than is realistic. Thus it is not clear what the relative proportion and grade of ore types will be. Visually it seems clear that if a shallow high-grade pit is developed, the major ore type will be barite bearing massive pyritic sulphides.

Due to the shallow depth of burial, oxidation may be more of a metallurgical problem with Vangorda than with Grum or Faro. Recent Cyprus Anvil work achieved better results with fresher and more reliable samples than earlier work.

Only a few additional holes are required at Vangorda to confirm ore extrapolations on a few sections. This drill core should be used for bench tests on the Vangorda ores to check on oxidation. Then, pit development could proceed.

3. The Dy Deposit

Dy (figure 10) was discovered in 1976 by Cyprus Anvil during a deep drill testing program. The top of the deposit is about 500 m below the surface. Thus, underground development is indicated, not open pit. The Dy deposit has been traced over an area 2200 m along strike and 1800 m across strike; several sulphide layers occur through a 200 m thickness. The deposit is thus one of the largest in the Anvil District.

There are only 53 holes defining the deposit. Polygonal calculations based on these holes at a 9% combine Pb plus Zn cutoff over a 3.5 m minimum width give undiluted geological reserves of 21.1 million

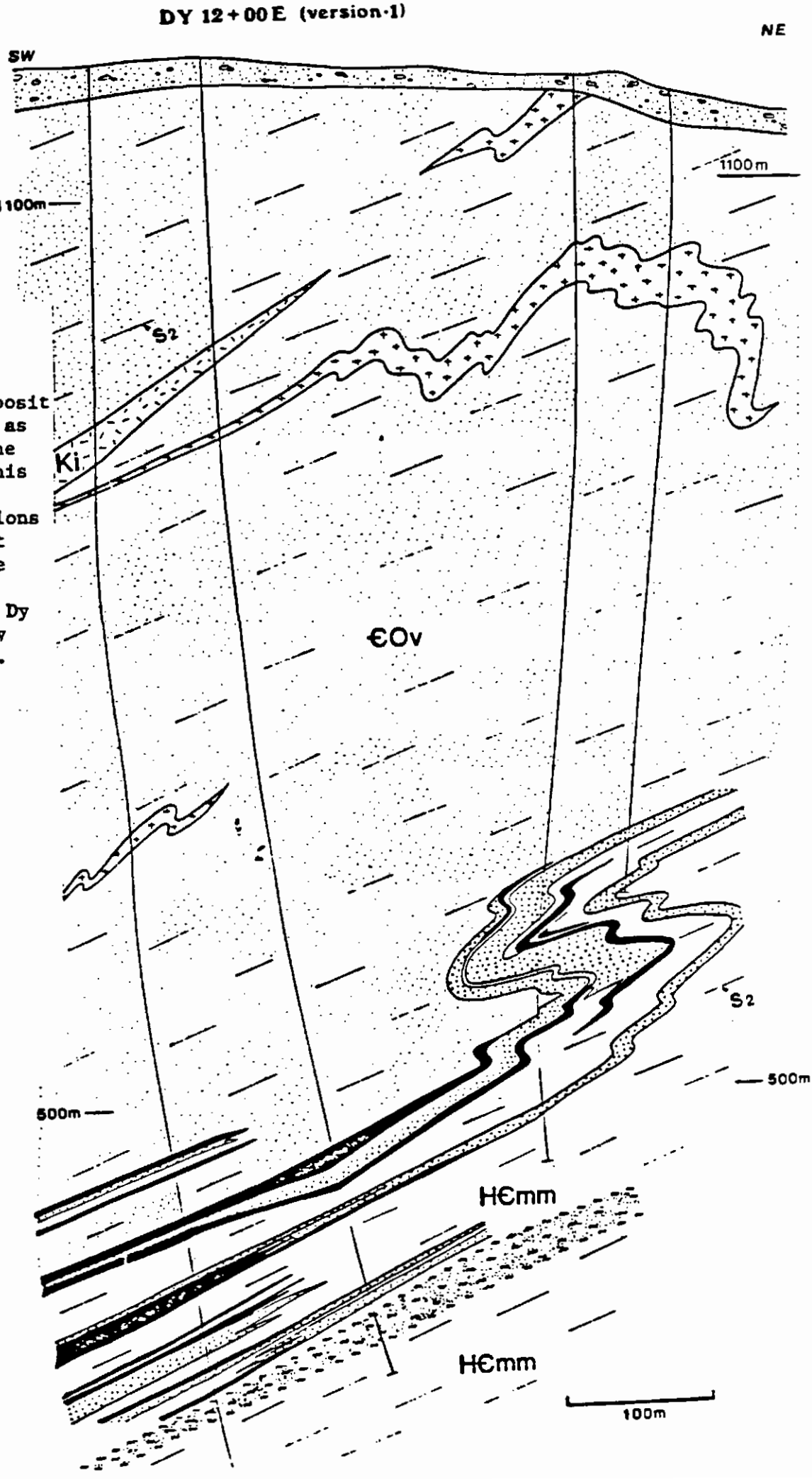


Figure 10

Schematic section through the DY deposit at the same scale as the sections of the other deposits. This is not one of the best drilled sections of the deposit but it illustrates the relative paucity of information at Dy and the difficulty of obtaining more.

tonnes averaging 5.5% lead, 6.7% zinc, 84.0 g/tonne silver and 0.95 g/tonne gold. This reserve occurs in two separate zones within a much larger volume of low grade sulphides. Based upon existing drilling, this reserve cannot be accepted at the same level of confidence as those for Grum and VanGorda. Additional drilling will be required prior to mine development.

The development of the Dy deposit has reached the point where further surface drilling is not warranted. A major underground definition and sampling program is now required to reveal the exact configuration of the deposit. However, there is little doubt that an important resource is indicated.

The Dy deposit consists largely of barite bearing massive pyrite sulphides.

Swim Basin and Other Exploration Potential

1. Swim Deposit

The Swim deposit, located in the Swim Basin east of the Vangorda Plateau, (Figure 11), was discovered by Kerr Addison in 1964. It was drilled from the surface during the mid-sixties. Approximately 45 holes define the deposit on a roughly 60 m x 30 m grid. The deposit occurs over a 400 m x 300 m area.

Geological Reserves calculated by Kerr Addison indicate 4.3 million tonnes at an average grade of 3.8% lead, 4.7% zinc and 47 g/tonne silver (undiluted, 6% lead and zinc cutoff).

No mining reserves have been computed for the Swim deposit. Because of its location relatively far from the concentrator and across a deep valley (figure 3) it has not figured prominently in district development plans in the past.

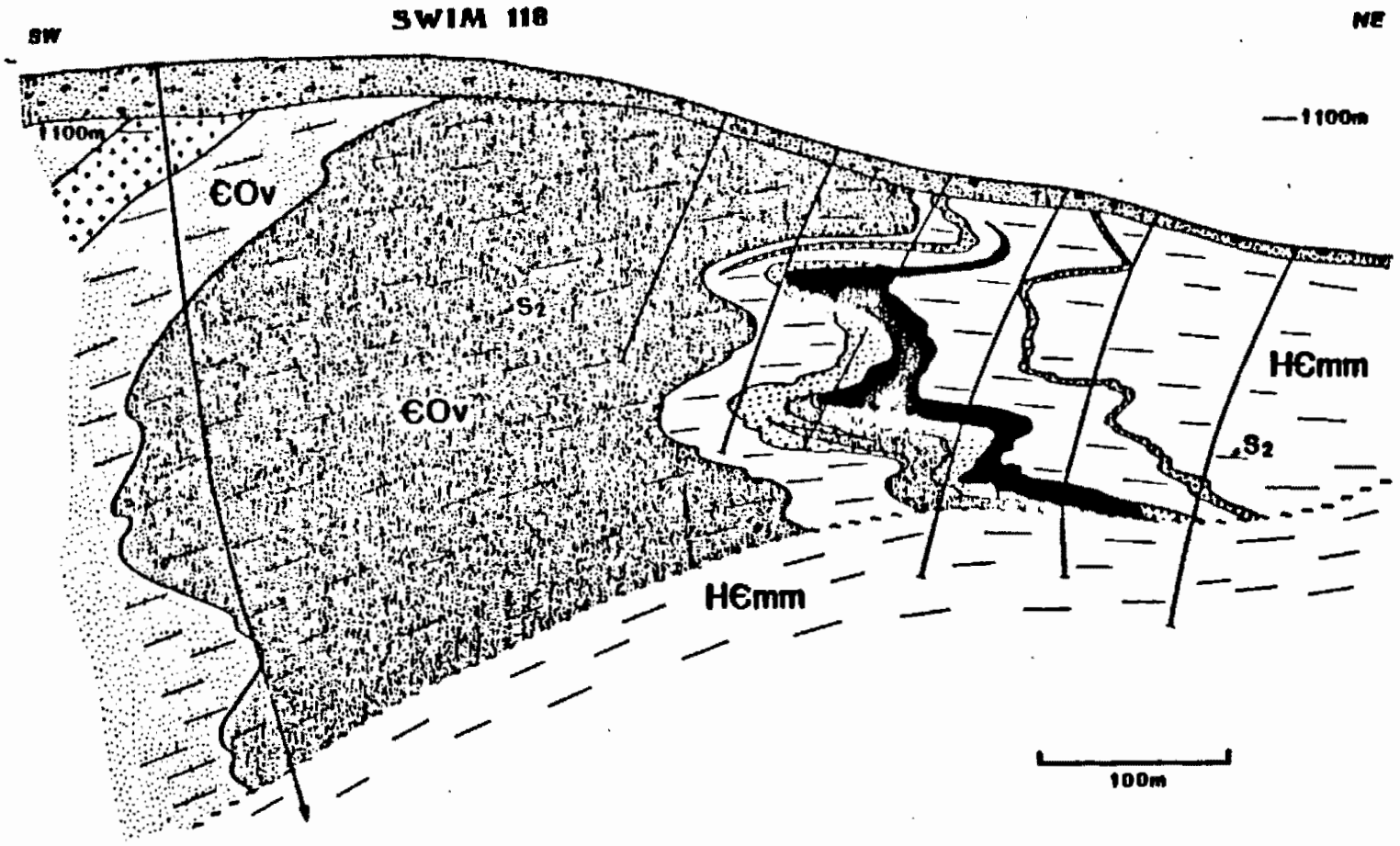


Figure 11. Cross section 118 through the Swim deposit. The basal massive sulphides in the main horizon are divisible into an upper baritic portion and a lower non baritic which is underlain locally by a thin quartzose unit thus the appearance of a reversed cycle is not real. The upper quartzose mineralization presumably represents the onset of a second incomplete (on this section at least) cycle. Displacement on the fault at the base of the deposit does not appear to be in the plane of the section, the resolution of this problem is a matter for furthur exploration.

Since most of the core has been destroyed over the years it will probably be necessary to redrill much of this deposit in order to provide refined reserve assessments.

Swim would logically follow Vangorda, Grum and Dy in sequence of mine development.

2. The Sea and SB Showings

Two showings in the Swim Basin indicated on the geological map (Figure 6) southeast of Swim Deposit are not lead-zinc bearing. They are large areas where thin layers of pyrrotite-rich mineralization containing minor copper values has been intersected. As the structural picture in the Swim basin develops, these mineralized areas may prove to be related to lead-zinc bearing sulphides. The gold potential of this type of mineralization will be examined more agressively than it has been in the past.

3. Exploration Targets on the Curragh Claim Block

Each deposit in the Anvil Range has a number of additional exploration or extension targets around it.

At Faro, additional drilling down dip from zone 3 could eventually outline underground minable tonnages accessable by an incline from the bottom of the zone 3 pit. Most other direct extensions are now drilled off.

At Grum, the major extension drilling is required down the fold plunge and some deep ore horizons require further definition.

Recent work around Vangorda has revealed the presence of blind fold hinges that should be drill tested since they contain potential for a few million tonnes of relatively shallow reserves.

The Dy deposit is only closed off to the north. However, further definition drilling will require rigs capable of 1200 meters and deeper holes. There is scope for significant additional reserves in this vicinity.

The Swim deposit is like Dy and Grum, floored by a shallow fault suggesting that a faulted off portion remains to be found through further drill testing to the south and east.

Of a more exploratory nature, several areas in the Swim Basin (Figure 6) remain to be tested. The most interesting of these is in the Moose Lake area of the Swim Basin showing a combination of gravity and electromagnetic anomalies and several anomalous overburden geochemical samples. This area is covered by very thick overburden. It is along the favourable curvilinear trend but up glacial transport from the known deposits. There remains open pit potential here.

Between the Moose Lake area and Swim there is further untested potential for lead-zinc bearing sulphides associated with the Sea and SB deposits.

Northwest of the existing Faro deposit there may be further untested potential for deep mineralization depending on the geometry of the Anvil Batholith contact and the basal contact of the Vangorda formation.

4. Exploration potential elsewhere in the Anvil Range

Figure 6 shows that there is a great length of favorable stratigraphy in the Anvil Range outside of Curragh's claim block. Much surficial exploration has been done in these areas but no significant discoveries have yet been made. The work done so far has shown that there is little to distinguish these other areas from the mineralized portion of the range. These areas are

commonly very heavily covered with overburden and thus difficult to explore. New geophysical technologies and new use of older techniques such as overburden drilling may eventually show these areas to be more attractive than they appear at present. The major negative aspect of these peripheral areas is that they do not fall on the curvilinear trend. The trend, however, is only a working hypothesis and could be wrong. The existence of a small, barren, stratiform sulphide showing, very similar to Sea or SB, northeast of the Anvil Batholith could indicate that there may be a second favorable trend somewhere.

Conclusions

In the Anvil Range there are several well-delineated ore deposits close to the Faro concentrator. These can be developed in the coming years to capitalize on the mine, mill, community, and transportation infrastructure already in place. Each of these deposits has its unique characteristics that will pose developmental challanges and rewards. At least two deposits, Vangorda and Grum, are sufficiently developed that open pit production could commence on a phased basis, consistent with depletion of the existing Faro pit. Vangorda and Grum appear to be at least as attractive as Faro, and may prove to be better than Faro with more selective mining and innovative metallurgical approaches.

Development of these deposits should proceed to provide an ore supply to the Faro mill to replace that from the Faro pit as it becomes exausted.

Following Vangorda and Grum, the underground Dy development should be carried forward. Underground exploration is now required.

Even longer-term, Swim and other deposits offer development potential.

3.0 EMPLOYMENT, CAPITAL AND OUTPUT

3.0 EMPLOYMENT, CAPITAL AND OUTPUT

Curragh's long-term objective is to maintain physical output from its Faro-Vangorda plateau operation sufficient for concentrate output in the order of 500,000 tonnes per year carrying on beyond the life of the existing Faro pit to the year 2000.

In considering the employment, capital, and output implications of Curragh's plans, and the impact of deferred repayment of the Government $17.3 million stripping loan, it is important to understand mine planning for the existing Faro Pit, as well as for those of the Vangorda Plateau.

Existing Faro Pit Plan

The existing Faro pit is approximately one-half mined out. Depending on lead and zinc market conditions, a minimum of approximately 16 million tonnes of minable ore remain; sufficient to provide smelter feed until 1993.

The existing Faro Pit mine plan was modified in the Spring, 1986 to defer mining of the lower ore grade ore zones (in the range of 4% to 6% combined zinc-lead) until the later years of Faro Pit life. This has entailed a shift in the sequence of mining, working generally from the southwest to the northeast quadrant of the pit as opposed to working generally from the southwest to the southeast.

The high grade (6% to 8%) Faro Pit ores are in the southwest quadrant of the Pit where there is sufficient ore supply for 4 to 5 years of operation at current levels. The lower grade ores in the northeast quadrant can provide concentrator feed for a further two to three years. The current plan does not incorporate any of the low grade mineral (4 - 6%) and the oxidized ore in the early years.

Curragh mine planners are now of the opinion that it would be less risky, in view of ore grades obtainable, to proceed on the basis of only minimal concentrator feed from the lower grade ore of the northeast quadrant of the Faro Pit. A greater advantage would be realized from the higher grade (6 to 8%) ores available from the nearby Vangorda Plateau _ _ but only if the Vangorda Project proceeds.

Thus, while there are ample reserves for 7 years of operations in the Faro Pit, Curragh's whole operation and existence becomes progressively more sensitive to the market price changes or lead and zinc during the latter stages of Faro pit life, due to the lower ore grades being mined. These risks can be reduced, and longer-term viability better assured, through an orderly phased program to develop mines on the Vangorda Plateau.

Steps Required to Develop Vangorda Plateau

The Vangorda Plateau is separated from the Faro concentrator by a valley, which should be crossed by a rock-fill causeway. Otherwise, a costly down-grade and up-grade detour would be required for truck haulage. Total haul distance to the concentrator is 10 to 15 kilometers.

A logical and cost-effective plan for development of the Vangorda Plateau would be to:

1. Commence detailed engineering studies in the summer and autumn of 1986.

2. Obtain immediate Yukon Water Board and Fisheries Department approval to push waste rock across the North Branch of Rose Creek, to build the base for a causeway to the Plateau.

3. Commence highway construction to the Plateau in late 1986, using waste rock from the Faro pit. Roadway will be 200 feet high and about 6 km long, to the Plateau across the intervening valley; this will take in excess of one year to complete.

4. In 1988, commence waste rock stripping on the open-pit Vangorda Deposit, and be ready to mine ore by 1990 - 1991 as Faro Pit production is reduced. Also, commence underground exploration of Dy; and commence road construction from Vangorda to Grum.

5. In 1990 commence waste rock stripping on the Grum Deposit open-pit and be ready to mine ore from Grum by 1992 - 1993, as output from Vangorda is reduced. Also commence road construction from Grum to Dy.

6. In 1992 commence construction of the Dy underground mine, with first ore production targetted from Dy for the mid-1990's.

Very preliminary estimates suggest that Vangorda may require a capital investment of $17 million prior to ore production; and Grum, an additional capital investment of $15 million. The development costs of Dy will be in the range of $100 million. These are very approximate judgements by experienced mine planners and managers who know the area.

Curragh Resources would emphasize that these are preliminary estimates. Detailed mine planning and engineering must now commence.

Table 1, below, shows the estimated breakdown of development costs for these three deposits in the Plateau.

Table 1: Approximate Estimates of Pre-Production Development Costs: Vangorda Plateau

	Construction Labour		Equipment: Capital & Operating	Engineering	Total
	Man-Years	$ Millions	$ Millions	$ Millions	$ Millions
Vangorda	212	$ 8.4	$ 6.9	$ 1.7	$ 17
Grum	175	7.0	7.0	1.5	15
Dy	12 00	54.0	36.0	10.0	100
Other	NA	NA	NA	NA	NA
Total	1787	69.4	49.9	13.2	132

The total number of jobs created in the Yukon between 1986 and 2000, by these programs, both pre-production development jobs as well as production jobs, is estimated to be:

Vangorda	850	person-years
Grum	1785	
Dy	2200	
Other	300	
Transportation	2250	
Total	7385	person-years

This is above and beyond the 2614 estimated man-years of employment which will be created by the existing Faro Pit project (see Table 2) over this same time frame.

Total Curragh operations in the Yukon, therefore, between now and the turn of the century, only 14 years hence, may be in the range of 10000 person-years, of which two-thirds would represent jobs related to the Vangorda Plateau. In other words, the Vangorda project, in labour terms, probably creates twice the number of jobs as does the Faro project.

TABLE 2

Estimated Yukon
Employment (Direct)
Man-Years

	Existing Faro Deposit*	Vangorda Plateau				Highway Transportation	Total
		Vangorda	Grum	Dye	Other		
1986	403	–	–	–	–	150	553
87	475	25**	–	–	–	150	650
88	450	50**	–	–	–	150	650
89	402	100**	–	–	–	150	652
90	346	35**	65**	–	–	150	596
91	287	160	75**	–	–	150	672
92	251	190	35**	150**	–	150	676
93	0	190	210	200	–	150	750
94	–	100	300	450**	–	150	1000
95	–	–	300	400**	–	150	850
96	–	–	300	200	–	150	650
97	–	–	200	200	–	150	550
98	–	–	200	200	–	150	550
99	–	–	100	200	100	150	550
2000	–	–	–	200	200	150	550
Total Person - Years	2614	850	1785	2200	300	2250	9999

* Per Kilborn Report, August 1985
mid-range of Kilborn years, Table 2.3-7
** Pre-production development stage

Advantages of Developing the Vangorda Plateau Now

Curragh Resources believes it is important to process with development of the Vangorda earlier rather than later.

The advantages of beginning to develop the Vangorda Plateau now, as opposed to later, are clear:

1. The price risk of later-stage Faro Pit operations will be minimized.

2. Waste rock from Faro Pit can be used for road construction.

3. There can be a gradual transition, on a blended basis, from Faro Pit ore to Vangorda Plateau ore.

4. Infrastructure and senior management costs and overhead can be absorbed by the existing Faro project, lowering Vangorda development costs.

5. The social and economic cost of a fluctuating labour force can be minimized.

6. It will be important to maintain output from this district, on a steady uninterrupted basis, in order to hold market share in the key Japanese and Korea markets in the face of competition from Red Dog in Alaska in the 1990's.

4.0 COST-BENEFIT ANALYSIS

4.0 COST-BENEFIT ANALYSIS

Curragh Resources is asking the Federal Government to modify the terms of repayment of the $17.3 million stripping loan so that repayment is based upon the cash flows from the Vangorda project, rather than the cash flows of the Faro project. In all other respects, the terms of the agreement would remain unaltered.

What would the Government of Canada and the nation gain and lose by this modification of terms? And what are the expected economic costs and benefits.

It is helpful to examine costs and benefits in the areas of employment creation, Canadian exports, Canada's share of global mineral markets, expected tax and royalty revenues, capital spending, hydro power consumption, and unemployment and relocation costs in comparison with the deferral expense to the Government.

1. Employment

Curragh Resources is now estimated to provide direct employment in the Yukon of approximately 2600 to 2700 person-years, over the life of the Faro Pit. With the Vangorda project, another 7400 to 7500 person-years of direct employment may be created over the next 14 years:

Direct Employment in the Yukon: 1986-2000

With Vangorda	10000	person-years
Without Vangorda	2600	"
Incremental	7400	"

At an approximate $40,000 per person-year wage cost, this translates into extra wages in excess of approximately one-quarter billion dollars paid to Yukoners.

Direct Wages in the Yukon: 1986-2000

With Vangorda	$400 Million
Without Vangorda	104 Million
Incremental	$296 Million

With a conservative multiplier factor of two, it is possible that extra wage payments in excess of one-half billion dollars may be stimulated in Canada by the Vangorda project.

This compares with a total wage bill in the Yukon economy of about $250 million last year. While not all indirect wage benefits of Curragh operations may be captured within the "leaky" Yukon economy, no doubt the regional economic impact would be large.

It is important to note that unemployment in the Yukon has been in the range of 10 to 20 percent over the past several years. Curragh is by far the largest private sector employer.

Increased wages will translate into increased personal tax revenue for Canada. It is estimated that the increased wage bill in the Yukon generated by Vangorda may generate personal income tax payments to Governments at a 20 percent rate, or an incremental $53 million over the next 14 years.

Personal Income Tax Payments to Governments: 1986-2000

With Vangorda	$80 million
Without Vangorda	21 million
Incremental	$59 million

Since the Canadian mining industry has been operating well below capacity, with many workers unemployed, much of the above personal income tax revenue would indeed be lost to the Government, through keeping idle these human resources.

2. Exports

The Curragh project in the Yukon is estimated to produce the following tonnage of lead-zinc concentrate exports over the next 14 years:

Physical Output of Concentrate: 1986-2000

With Vangorda	7.4 million DMT
Without Vangorda	2.9 million DMT
Incremental	4.5 million DMT

In value terms, taking $230 per DMT (dry metric tonne) as a currently typical Canadian dollar netback after smelter charges and transportation, it is estimated that the Vangorda project would produce an extra one billion dollars of exports for Canada between now and the year 2000:

Value of Canadian Concentrate Excluding Shipping and Smelter Charges: 1986-2000

With Vangorda	$1.7 billion
Without Vangorda	0.7 billion
Incremental	$1.0 billion

3. Share of Global Mineral Markets

It is quite clear that Canada's share of global mineral markets is declining. This prospect is particularly troubling in the case of zinc, where Canada's global share of market has been in the range of one-third. Because of the relatively high proportion of zinc and zinc concentrate output held by industrial nations, including Canada, it appears that zinc markets have been more disciplined, and prices less volatile. Pricing may be at risk, as Canada's share of market declines.

The mine at Faro represents about 2.5% of world zinc concentrate supply, and about 7.5% of Canadian supply.

Other higher-cost Canadian zinc mines are shutting down. Cominco is transferring the bulk of its mining activity to the United States threatening Canada's zinc capacity to serve the Pacific Rim. In this context, Curragh becomes even more strategic in the Canadian supply picture. If Curragh shuts down the mine at Faro after seven years, then the Canadian industry will be that much weaker.

The strategic impact of global market share is hard to quantify, but certainly an economic factor to be considered in the millions of dollars.

4. Expected Tax and Royalty Revenue

The Faro project, as originally projected in the spring of 1985 by Price Waterhouse, was estimated to yield tax and royalty revenue to the Government of Canada of approximately $31 million over project life.

With life extension from 1992 to the year 2000, and using comparable assumptions, an additional $41 million may be reasonably expected to flow into the Government treasury.

Estimated Tax and Royalty Revenue: 1986-2000

With Vangorda	$70 million
Without Vangorda	30 million
Incremental	$ 40 million

5. Capital Spending

The Faro Pit project of Curragh Resources entails cumulative capital spending (including labour) of approximately $20 million. It is our current estimate that the Vangorda Project will involve incremental capital equipment spending in the range of $132 million, or 6 to 7 times as much impact.

Cumulative Capital Spending: 1986 - 2000
(including construction wages)

With Vangorda	$152 million
Without Vangorda	$ 20 million
Incremental	$132 million

Some of this capital spending will represent Yukon labour - perhaps as much as 50 percent. Other equipment expenditures will be directed across Canada.

There would be indirect multiplier impacts as well. The existing Faro Project has already stimulated in excess of $4.0 million of trailer building by Westank in Regina, Saskatchewan and a like sum for Western Star tractors built in Kamloops, B.C. This $8 million plus of capital spending is not reflected in the above totals. Undoubtedly the Vangorda project would similarly produce indirect capital spending spin-off benefits across Canada.

6. Hydro Power Consumption

The mine at Faro is one of the Northern Canada Power Commission's major customers. Indeed, the Whitehorse 4 hydro-electric dam was built by NCPC in anticipation of continued mine operation by Cyprus Anvil, and its gradual expansion to the Vangorda Plateau.

By resuming operations, Curragh has brought approximately $7.0 million per year of incremental hydro-electric revenue back into NCPC.

	Estimated Federal Government Hydro Electric Revenue: 1986 - 2000
With Vangorda	$ 85 million
Without Vangorda	$ 42 million
Incremental	$ 43 million

The degree to which this government revenue is truly incremental, to the year 2000, depends very much on load growth in the Yukon. At present, indications are that much water is being spilled, unused. Thus, there may be a large incremental gain.

7. Unemployment and Relocation Assistance

If Curragh operates the existing Faro Project to its currently planned termination date in 1993, then the mine and mill complex will be phased down, and eventually closed.

All planning to date has been on the basis of a 7-year project life.

Partner and shareholder capital has been invested in the Faro Project on the basis of a 7-year life.

The Government of Yukon has negotiated its deal with Curragh on the basis of a 7-year life.

Canada Mortgage and Housing has made its plans on the basis of a 7-year mine life. Curragh's housing plan also assumes a finite mine life.

Thus, many plans and expectations are that the mine will shut down in 1993.

Curragh, in cooperation with the Yukon Government, is endeavouring to encourage a more diversified economic base for the community of Faro, once again Yukon's second largest city. However, there are limitations to what can be achieved. Layoffs and relocation would be inevitable if the mine closes.

The cost to the Government is hard to quantify, but let us assume relocation and U.I.C. costs in the range of $6,000 per person, affecting 350 persons. The cost to the Government of Canada could easily be an incremental $2.1 million, without Vangorda.

U.I.C. and Relocation Asssitance: 1986 - 2000

With Vangorda	- 0 -
Without Vangorda	$ 2 million
Incremental	$ 2 million

The social cost of family disruption and job change is far more significant, but not quantified.

SUMMARY

	With Vangorda	Without Vangorda	Incremental
Employment (person-years)	10000	2600	7400
Direct Wages ($ millions)	$ 400	104	296
Personal Income Tax Payments ($ millions)	80	21	59
Concentrate Output (mm DMT)	7.4	2.9	4.5
Exports ($ billions)	1.7	0.7	1.0
Shared Global Market	N/A	N/A	N/A
Taxes and Royalties ($ millions)	70	30	40
Capital Spending ($ millions)	152	20	132
Hydro Revenue ($ millions)	85	42	43
Unemployment and Relocation Cost ($ millions)	0	2.0	2.0

Therefore, if Vangorda proceeds, direct benefits to Government are estimated to be incremental personal tax ($59 million), corporate taxes and royalties ($40 Million), hydro revenues ($43 million) and avoided social assistance ($2.0 million), for a total of $144 million.

The spin-off benefits to the Canadian economy are much larger: net exports ($1.0 billion), direct wages ($296 million), and indirect wages and capital spending in the range of three-quarters of a billion dollars. The "cost" to Government of achieving this benefit is the shifting forward in time, by approximately 5 to 7 years, of the repayment of a $17.3 million loan.

The cost-benefit ratio appears to be robustly favourable.

Would the Project Proceed without the Proposed Recycling?

This is a fair question, but one that is difficult to answer.

Curragh Resource has an over-abundance of attractive investment opportunities, among them being the Cirque Project in British Columbia, and many others.

Partners and Shareholders have invested in Curragh on the presumption, to date, of a seven year life. It takes patient money with a long-term horizon to develop new mines in today's environment.

Taking the longer-term view, Curragh Management believes it would be extremely helpful to be able to "recycle" monies back into the ground, in order to start to develop VanGorda's potential for the 1990's and beyond.

5.0 PROPOSED SUPPLEMENTARY AGREEMENT BETWEEN THE GOVERNMENT OF CANADA AND CURRAGH RESOURCES

THIS AMENDING AGREEMENT made as of the __ day of _____, 1986

B E T W E E N :

The Government of Canada, represented by the Minister of Indian Affairs and Northern Development

(herein referred to as "Canada")

OF THE FIRST PART,

-and

CURRAGH RESOURCES, a partnership formed under the laws of Alberta, having its registered office in the City of Toronto in the Province of Ontario

(hereinafter referred to as "Curragh")

OF THE SECOND PART.

WHEREAS by an agreement made as of the 22nd day of November, 1985 (the "Amended DIAND Agreement") Canada and Curragh agreed as to the repayment of certain funds that had been provided by Canada for the implementation of an action planned to re-open the lead-zinc mine located at Faro, Yukon (hereinafter referred to as the "Faro Mine");

AND WHEREAS Curragh and Canada have agreed to amend certain terms of the Amended DIAND Agreement;

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the covenants and agreements herein contained the parties hereto hereby agree that the Amended DIAND Agreement be amended as follows:

1. The repayment terms and conditions set out in Section 5.2 and in the Schedule with respect thereto be and they are hereby amended so that any reference to positive cash flow shall now mean positive cash flow from the mining development at the Vangorda Plateau instead of the Faro Mine. All deductions from positive cash flow and timing of payments as provided in the Amended DIAND Agreement remain unaffected.

2. All dollars of positive cash flow from the Faro Mine that would have previously been due and payable under the Amended DIAND Agreement will now be used by Curragh in the development of the mining project at Vangorda Plateau with any repayment to Canada out of positive cash flow to be generated from the Vangorda mining development. Any expenses incurred by Curragh at the Vangorda mining development prior to any payments being due under the Amended DIAND Agreement shall be taken into account against amounts, if any, as and when they become payable.

3. A separate account will be set up by Curragh so that if expenditure are not yet being made on the Vangorda mining development positive cash flow, if any from the Faro Mine that would have been paid to Canada under the Amended DIAND Agreement shall be paid into this separate account to be specifically used for development of the Vangorda Plateau. All expenditures incurred in the future by Curragh shall would also be matched against positive cash flow generated from the Vangorda Plateau in accordance with the Amended DIAND Agreement.

4. All terms and conditions of the Amended DIAND Agreement except as amended herein shall continue to apply with the same force and effect. The Amended DIAND Agreement except as amended herein, is and is hereby ratified and confirmed.

IN WITNESS WHEREOF this Amending Agreement has been executed by the parties hereto this __ day of _____, 1986.

GOVERNMENT OF CANADA

Witness:

_____ Per: _____

CURRAGH RESOURCES
Per: Curragh Resources Corporation

Witness:

_____ Per: _____