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Silver Tip

MIDWAY

AN ANALYSIS OF A NEW MASSIVE SULPHIDE DISCOVERY

(Zinc, Lead, Silver)

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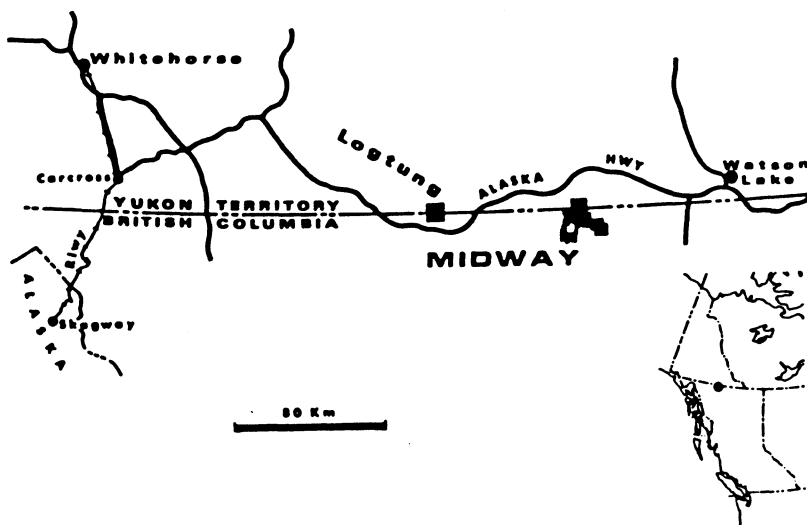
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MIDWAY

AN ANALYSIS OF A NEW MASSIVE SULPHIDE DISCOVERY

INTRODUCTION

LOCATION



The MIDWAY property straddles the B.C.-Yukon Border about 80 km west of Watson Lake and 275 km east of Whitehorse. It is comprised of some 240 claims in the Yukon and 882 units in British Columbia. A 23 km access road links it with the Alaska Highway.

PHYSIOGRAPHY

The property lies in alpine terrain with relief up to 1000 metres. Many of the prime target areas occur in broad, glacially carved valleys with overburden thicknesses of one to twenty metres.

The MIDWAY discovery and events leading up to it will be discussed because they and the discovery illustrate several important aspects of the mineral resource business.

OUTLINE OF TOPICS

MIDWAY

- HISTORY
- 1981 PROGRAM
- GEOLOGY
- 1982 PLANS
- CRITERIA FOR SUCCESS

An overview of the history leading up to the discovery, then, a brief summary of the 1981 program, the geology of the property, plans for 1982 and finally the criteria important to this exploration success are the topics under discussion.

EXPLORATION HISTORY

EXPLORATION HISTORY THE MIDWAY PLAYERS

- CORDILLERAN ENGINEERING
- LOGTUNG RESOURCES LTD.
- REGIONAL RESOURCES LTD.
- AMAX MINERALS EXPLORATION
- PROCAN EXPLORATION COMPANY

The history of the players involved and their respective roles provides the necessary background for my analysis.

There are five companies involved at this point - three juniors and two majors. The juniors are Canadian companies in the FIRA sense of the word - the majors are not.

EXPLORATION HISTORY (cont'd)**CORDILLERAN ENGINEERING****Formed in 1967****Mineral Exploration Management
Independent Exploration Group****Major Discoveries**

1971	ROBB LAKE	Pb, Zn
1973	GOZ CREEK	Pb, Zn
1974	GAYNA RIVER	Pb, Zn
1976	LOGTUNG	W, Mo
1980	MIDWAY	Zn, Pb, Ag

Cordilleran Engineering, a Mineral Exploration Management Group, became an entity in 1967 born of the desire by some individuals to provide exploration services to the industry, and at the same time maintain a high degree of independence and to conduct basic prospecting for their own account.

The group is a partnership among individuals. The partners and the employees "share in the

action", a fact which makes them vitally concerned with the success of the company.

Cordilleran has managed some \$26 million worth of exploration in B.C., the Yukon and the N.W.T., and has been involved with or was responsible for the discovery of such major properties as Robb Lake, Goz Creek, Gayna River, Logtung and the MIDWAY massive sulphide discovery in 1980.

Cordilleran Engineering is the exploration manager for the next two players on our list.

LOGTUNG RESOURCES LTD.**C. E. E. (100 per cent Tax write-off)****Grass roots exploration****Logtung W-Mo Discovery, 1976**

Although Logtung Resources is not directly involved with the MIDWAY discovery, it is an important stepping stone in the direction of success for Cordilleran. Logtung's roots lie in a Limited Partnership which funded a primary stage exploration program for

\$200,000 in 1976. The money was raised through investors who would be able to take advantage of the 100% tax write-off under the Canadian Exploration Expense deduction - one of the few items not attacked by MacEachen in his recent budget.

The "grass-roots" program resulted in the discovery of the Logtung deposit now under option to AMAX.

Since 1977 AMAX has spent some \$5 million on this property. In all, Logtung will have received \$1 million in cash and retains 40% equity or \$2 million in cash and a 20% net profits interest - not a bad return on \$200,000!

EXPLORATION HISTORY (cont'd)**REGIONAL RESOURCES LTD.****Financed by C. E. E.****Grass roots exploration****Acquired several properties in 1979****Underwriting****1980 MIDWAY DISCOVERY**

Yukon and northern British Columbia. Detailed stream sediment sampling conducted over the MIDWAY area disclosed anomalous lead, zinc, silver and barium values in several drainages. Prospecting in September led to the discovery of stratiform barite, and recognition of an environment similar to that of other shale hosted base metal deposits. So the claim staking began!

Regional is a similar corporate vehicle organized to back primary stage exploration. It acquired several properties in 1979 which resulted in an underwriting to support ongoing work.

During 1980, the Company funded a geological-geochemical reconnaissance program in southern



THE DISCOVERY

Further late-season prospecting uncovered a massive sulphide horizon on the side of a cat trench near the old Silvertip property - a previously explored carbonate hosted silver-lead-zinc "vein" deposit.

That exposure is the site of the MIDWAY DISCOVERY! Further trenching and drilling have clearly revealed it to be a sedimentary exhalative massive sulphide which will be described in more detail later on.

EXPLORATION HISTORY (cont'd)**AMAX MINERALS EXPLORATION &
PROCAN EXPLORATION COMPANY****MAJOR FINANCING**

AMAX MINERALS EXPLORATION
U.S. Resource Company
MIDWAY 1981 \$1.2 M

PROCAN EXPLORATION COMPANY
Venture Partner

AMAX and other major mining companies were active in the area surrounding the discovery. AMAX has a tungsten prospect which adjoins the MIDWAY claims. They were at least somewhat knowledgeable about the area, and were highly interested in the discovery at an early stage.

AMAX recognized the potential of the discovery and a deal was made in early 1981.

Under the terms, AMAX can earn a 49% interest in the property through a series of exploration expenditures totalling \$4 million by 1984 and cash payments of \$600,000. Thereafter, AMAX may elect to bring its total position to 60% by paying Regional a further \$2.6 million cash and granting them a 4% net smelter return.

Also, in early 1981, because of a prior agreement, AMAX assigned one-half of its position in the MIDWAY property to Procan Exploration Company.

1 9 8 1 E X P L O R A T I O N P R O G R A M**MIDWAY
1981 EXPLORATION PROGRAM**

1,122 Claims (85 square miles)
240 in the Yukon Territory
882 in British Columbia

Airborne EM/Mag
Geochemical Sampling
Geological Mapping, Ground EM,
Gravity, Trenching
Diamond Drilling (860 metres)

COST \$1,200,000

In June of 1981 it was decided to mount an intensive prospecting, mapping and surface exploration program followed by excavator trenching and, if time allowed, by diamond drilling.

A 380 km airborne EM-Mag survey using the Dighem System was flown during April and May. The resulting plan of conductivity features was a useful mapping tool. Furthermore, the best conductors were in part coincident with the Discovery showing. The magnetics

1981 EXPLORATION PROGRAM (cont'd)

were generally flat and not particularly helpful.

Four hundred and thirty-five kilometres of grid were established and 8,000 soil samples were collected and analyzed for lead, zinc, silver and barium.

Prospecting, section measurement, outcrop mapping, and detailed rock chip sampling were carried out over the entire property.

Ground EM and gravity test surveys were undertaken on three limited areas to evaluate the effectiveness of these techniques.

In late August a Bantam 366 excavator was moved onto the property. It was used to clean up and further trace the massive sulphide discovery horizon and to expose sections of continuous stratigraphy for mapping and sampling across favourable areas.

Although the steep terrain and local permafrost proved troublesome, the excavator vastly improved the exposure, extending the showing to a strike length of 110 metres and revealed additional massive sulphide horizons.

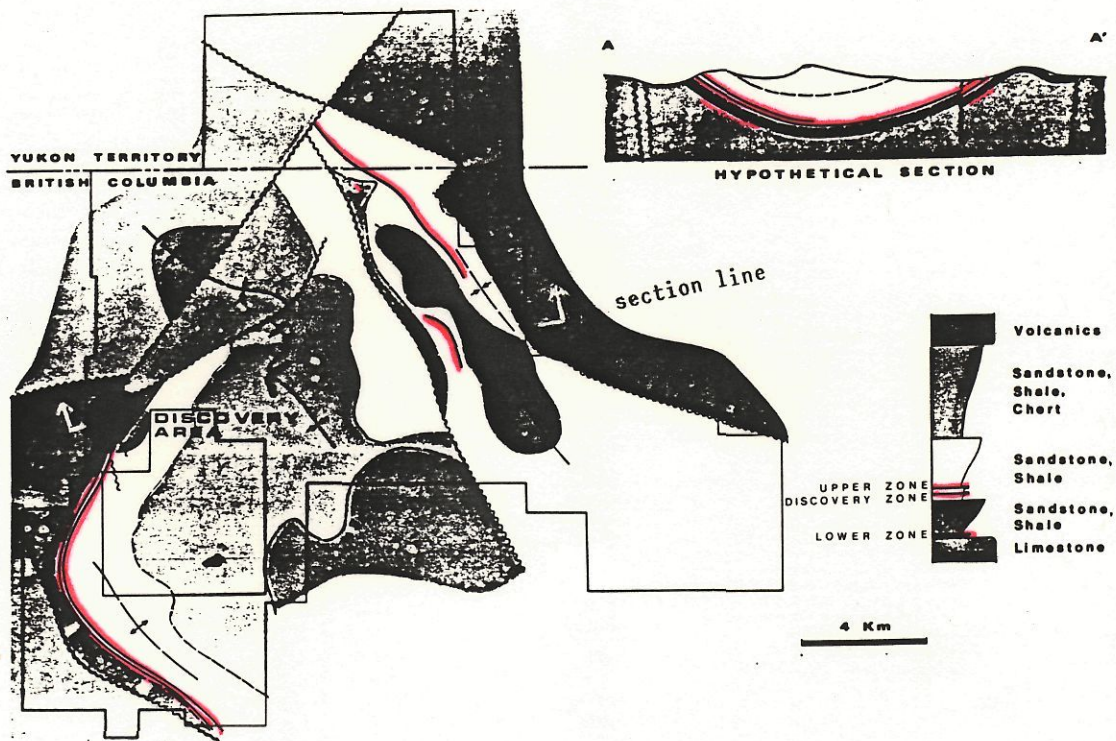
By mid-September the exploration effort had outlined at least three broadly anomalous targets within the right stratigraphy and within low resistivity multi-conductor areas. The discovery trench was located in one of these. It was then decided to embark upon a program of limited drilling to test the downdip extension of the discovery showing.

During late September and part of October, a total of 860 metres of NQ wireline diamond drilling was completed in six holes spaced at roughly 50 metre intervals. Each hole cut at least three massive sulphide horizons.

The drill program was terminated with the completion of the sixth hole because of snow conditions. Total 1981 exploration cost was approximately \$1.2 million.

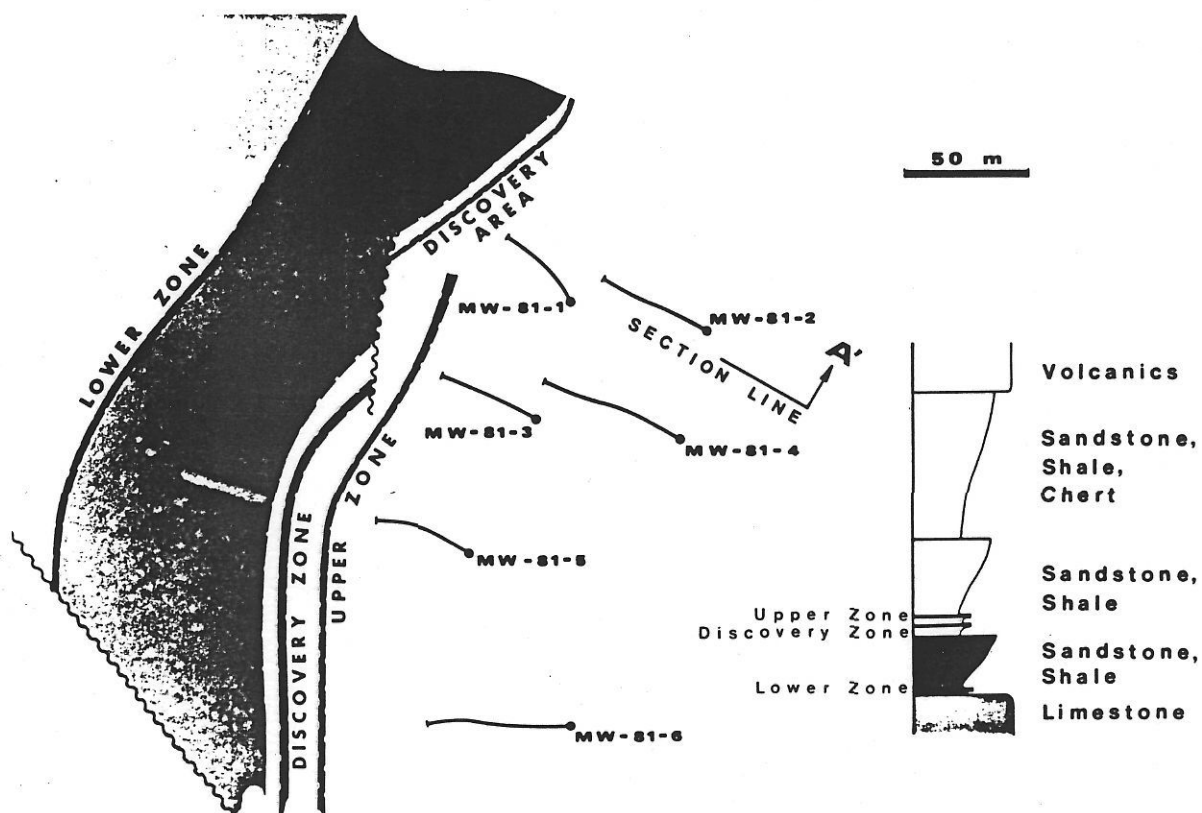
GEOLOGY & MINERALIZATION

MIDWAY GEOLOGY



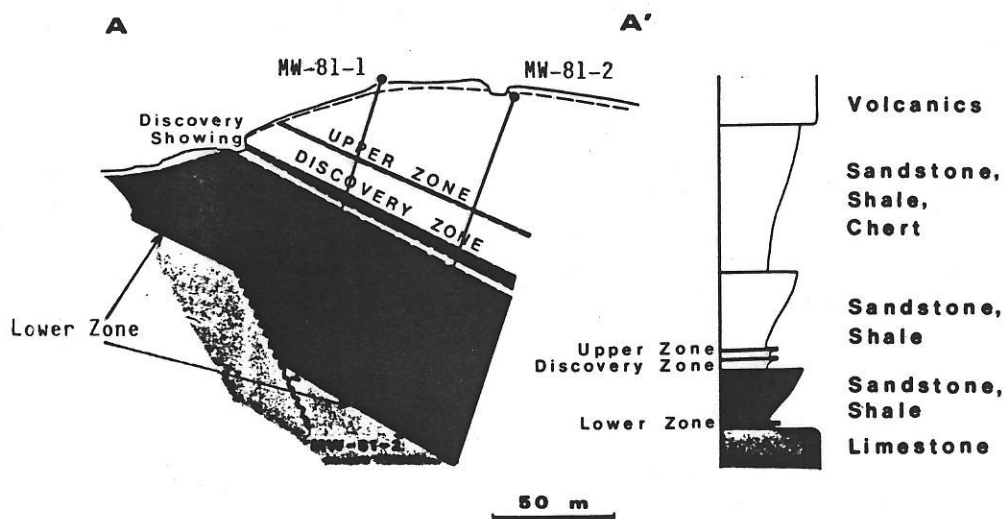
The MIDWAY property is underlain by Devono-Mississippian sediments. The oldest unit - a thick succession of carbonate rocks, is overlain by more than 1000 metres of shales and sandstones which were deposited in a fault-bounded basin or trough. The stratigraphic section shows that the clastic rocks can be divided into three generally coarsening-upward units. Stratiform sulphide mineralization occurs at three separate levels. Favourable horizons, indicated by red lines on the map, are highly siliceous, often baritic and traceable over several kilometres in the southwest and northeast parts of the property. The section illustrates a synclinal structure with a northwest trending axis. Strata dip approximately 30 degrees inwards and are bounded by steeply dipping faults.

DISCOVERY AREA GEOLOGY



Trenching in the Discovery area exposed 130 metres of vertical section including the Upper and Discovery zones. The Lower zone is projected to surface from the six drill holes and from geophysical information. Bedding strikes north to northeast and dips are about 30 degrees east. Local faults with displacements of 30 to 200 metres are indicated.

SHOWING AREA - CROSS SECTION



This section passes through holes 1 and 2 which intersected the three main mineral zones.

The Lower zone, located at the limestone-shale contact, consists of weakly bedded to brecciated sulphides in a shale matrix. It is from 0.9 to 2.3 metres thick and generally richer in lead and silver. For example, the intersection in hole 3 graded 10.3% lead, 4.9% zinc and 14.1 oz/ton silver over 2.3 metres.

The Discovery zone is located at a sandstone-shale contact approximately 70 metres above the Lower zone. It thickens substantially down dip from a maximum of 2.5 metres on surface. Drill holes intersected 4.5 to 11 metres of finely laminated sphalerite, pyrite, galena and silica. Its average grade in six holes is 9.3% combined lead-zinc with 2.9 oz/ton silver over 4.5 metres.

The Upper zone, approximately 20 metres higher, is mineralogically similar to but lower grade than the Discovery zone. It is 0.5 to 2.8 metres thick.

Other narrow stratiform sulphide horizons intersected in some of the drill holes could increase to economic thicknesses elsewhere.

CORE

Mineralization consists of finely interlaminated light brown to yellow sphalerite, abundant pyrite, variable amounts of galena, and very fine-grained quartz and sericite. Masses of coarse-grained pyrite commonly cut across and obscure original textures. Minor barite is associated with the zones; stratiform barite horizons are seen elsewhere on the property.

PLANS FOR 1982

MIDWAY PLANS FOR 1982

Diamond Drilling (4,000 metres)
Ground EM
Gravity
Geological Mapping
Trenching
Geochemical Sampling
Air Photography and Base Map
\$ 2,000,000

At this point in the MIDWAY story we believe we are on the verge of an important discovery. Much remains to be done to determine whether or not one or more bodies of economic mineralization exist. We intend to aggressively try and find out in 1982.

Our methods will be similar to those used successfully in 1981. Because of the much larger drill program and greater amount of ground geophysics, this effort is expected to cost approximately \$2 million.

CRITERIA FOR SUCCESS

MAJOR CONTRIBUTORS

- **INDEPENDENT OPERATOR**
Cordilleran Engineering
- **JUNIOR COMPANY**
Regional Resources Ltd.
- **MAJOR COMPANY**
AMAX Minerals Exploration
Procan Exploration Company
- **GOVERNMENT**

Contributions to the MIDWAY success were made by the players listed on this slide. You will note there is an additional player in the cast.

The new player is a familiar countenance - one which the mining industry views with some reservation. GOVERNMENT can, through tax incentives and favourable regulation, further exploration - or on the other hand severely curtail it with unfavourable forms of intervention.

CRITERIA FOR SUCCESS - Major Contributors (cont'd)

The following individual analysis of each player reveals what important traits and attributes they possess - ones which led to exploration success at the MIDWAY property.

INDEPENDENT OPERATOR

CORDILLERAN ENGINEERING

- Independence
- Set purpose
- Technical ability
- Credibility

The desire for independence and to follow through on ones own ideas is the driving force behind groups such as Cordilleran.

The survival of such a group depends very much of their ability and credibility - that is - both the investor financing their exploration programs and the company which engages their services must be convinced of their ability to perform.

JUNIOR COMPANY

REGIONAL RESOURCES LTD.

- Source of capital
- High risk
- High potential reward

That the junior company is, and will continue to be, an important risk capital financing vehicle should be evident to everyone. It is noteworthy that steps are being taken at the Toronto Exchange to re-activate a junior board after a brief period when all juniors were banished to Vancouver - where, by the way, they flourished!

At inception, most juniors have little to offer other than a long shot at the end of the rainbow where a pot of gold may or may not exist!

The Regional Resources investors have been rewarded by the MIDWAY discovery which, if brought into production, could repay them handsomely.

MAJOR COMPANY

**AMAX MINERALS EXPLORATION
PROCAN EXPLORATION COMPANY**

- Risk capital
- Technical expertise
- Deals with junior

The major company in this scenario is clearly also a risk-taker. The major's role - which is just starting at MIDWAY - lies in providing the large amounts of capital and expertise required to evaluate and develop the find.

Junior companies are an important source of properties. Thus, in

CRITERIA FOR SUCCESS - Major Contributors (cont'd)

dealing with them, the major companies should take care to recognize their abilities and meet their needs. Survival depends on it!

GOVERNMENT

- Tax incentives
- Stable regulations
- FIRA

The role of government, although perhaps taken for granted, is highly significant in this story. The 100% write-off on Canadian Exploration Expense provides a strong incentive for high tax-bracket investors to participate in the minerals resource business.

It was this incentive which made the exploration concept a product which could be sold.

Most people regard regulations as a nuisance. I would like to suggest that stable, long term, and logical regulations concerning mineral title, business and tax regimes are very necessary to encourage much needed investment in the mineral resource business. The disruptive impact of adverse policies has been well demonstrated on several occasions at both the Federal and Provincial levels.

Restricted flow of investment capital, especially at the early stages, is a powerful lever working against growth in the minerals industry. FIRA has without doubt curbed exploration spending, but its impact is poorly recognized by policy-makers. People just don't document exploration programs not carried out for lack of funds. Fewer discoveries lead to less future mining, an important part of the Canadian Economy!

S U M M A R Y

- HISTORY
- 1981 PROGRAM
- GEOLOGY
- 1982 PLANS
- CRITERIA FOR SUCCESS

An overview of the MIDWAY property, events leading to its discovery, activities, plans and views as to what were the important ingredients to this success have been given.

The future of the MIDWAY property lies largely in the hands of AMAX

SUMMARY (cont'd)

and PROCAN because they are financing the next stage of exploration. Luck, as always, is still a very important component.

Perhaps at some future Prospectors and Developers Convention, we will be able to present a paper on the new **MIDWAY** Mine!

In closing, I wish to gratefully acknowledge the contributions of my co-author Walter Sellmer of AMAX, both for his perception of the potential of the discovery, and for his support and assistance in the preparation of this paper.

Thank you for the opportunity to give this presentation.

J. W. Stollery, P.Eng.

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