

A REPORT ON THE ROSSLAND PROPERTIES

OF THE ANTELOPE-BRYNDON JOINT VENTURE,

TRAIL CREEK MINING DIVISION, B.C.

FEBRUARY 14, 1989

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SUMMARY

This report on the Rossland project of the Antelope-Bryndon joint venture has been prepared by G.M. Hogg, P.Eng. The joint venture, in which Antelope Resources Limited and Bryndon Ventures Inc. each retain a 50 percent participating interest, holds 92 mining claims and 47 fractional claims in the vicinity of Rossland, B.C. Most of these claims are contained within three larger groups which lie along the contact of the Rossland Monzonite mass and surrounding volcanics and sedimentary rocks.

The Le Roi, Center Star, War Eagle and Josie claims lie in this same geological environment in proximity to the joint venture properties. Collectively these four claims produced approximately 5,600,000 tons of ore grading 0.47 oz. $\Lambda u/ton$, 0.50 oz. $\Lambda g/ton$ and 1.2% Cu over a 50 year operating period. The deposits consisted of massive to disseminated sulphides in easterly-trending shear systems lying at or near the monzonite contact.

Several mineralized, easterly-trending shear systems are known within the joint venture properties, some having produced limited tonnages of ore in the past. The Evening Star and Iron Colt claims in the North Belt property, and the Homestake and Bluebird claims within the South Belt property are among these.

During 1988 exploratory drilling on the Evening Star shear system commenced, and to date a tabular auriferous zone over 500 feet in length averaging 13.7 feet in thickness has been traced to a depth of about 300 feet. Approximately 30 holes at 50 foot centers have been drilled on this zone, with assay values so far received reporting from low ranges to as high as 1.04 oz.Au/ton over 14.5 feet. Significantly one of the deeper holes at the monzonite contact intersected massive sulphide mineralization grading 0.40 oz.Au/ton over 5.9 feet.

Within the South Belt property area drilling has reported excellent gold values along mineralized shear systems. While continuity of mineralization has not been established thus far, drilling operations are being continued.

The results of the joint venture program in the Rossland area have thus been highly encouraging, and although in an early stage it may well be

that an economically viable zone of gold mineralization has already been located on the Evening Star claim. Numerous other attractive target areas remain to be evaluated within the joint venture properties.

Continued exploration is recommended in the area through 1989, including the undorground sampling of the Evening Star zone. The cost of this program is estimated at \$ 2,864,600.

INTRODUCTION

This report on the Rossland properties of Antelope Resources Limited (Antelope) has been prepared by G.M. Hogg, P.Eng., at the request of Mr. C. von Hessert, president of the company.

Antelope has been active in the Rossland area of southern British Columbia since 1987 when it entered into a joint venture agreement with Bryndon Ventures Inc. (Bryndon). Under this agreement Antelope as project manager has earned a 50 percent interest in the original mining lands held by Bryndon, and retains a 50 percent interest in additional lands acquired in the area through staking and option. At present land holdings in the vicinity of Rossland total 92 claims and 47 fractional claims which are for the most part contained in three large groups.

The purpose of this report is to provide a statement of current property holdings and exploration results of the Antelope-Bryndon joint venture in the Rossland area. As work is continuing the study must be considered as interim in nature, particularly in respect to an attractive gold prospect being drilled immediately to the north of the city of Rossland.

Data utilized in the course of this study was acquired from the files of Antelope, and from the records of the Ministry of Energy, Mines and Petroleum Resources of British Columbia. A listing of some of these sources of information is found in Appendix I to this report.

The writer last visited the project area on January 19th and 20th, 1989, at which time relevant exploration records and drill core were examined. The aid and cooperation of Mr. F. Fowler, the project manager, and his

staff are gratefully acknowledged.

PROPERTY LOCATION, ACCESS

The project area is located near the city of Rossland within the Trail Creek Mining Division of southern British Columbia (see Figure 1). It lies within six kilometers of the Cominco smelter complex at Trail, B.C.

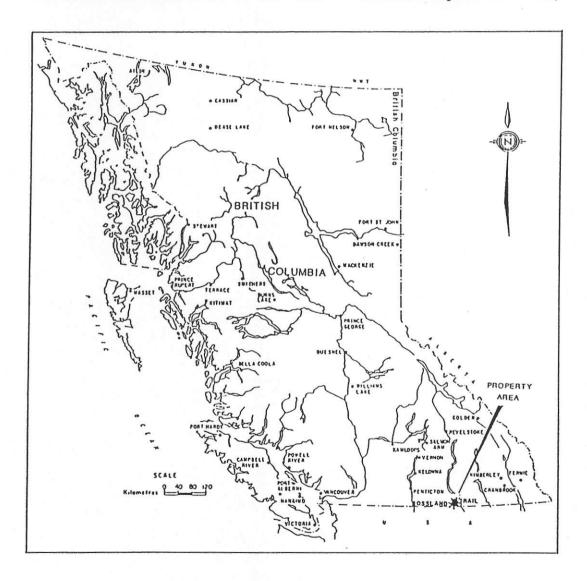


Figure 1: General Location Plan of the North Rossland Properties of Antelope Resources Limited.

The city of Rossland is a mature community with a population of about 4,000. It has infrastructure and labour suitable to a mining operation. The nearest commercial airport is located at Castlegar about 30 kilometers to the north, and is linked to Rossland by highway.

The Rossland district is mountainous with the highest peak in the immediate area, Granite Mountain, reaching an altitude of 2,040 meters above sea level. Local relief within the various property areas is from 50 to 100 meters. The area is generally well wooded with Douglas fir, pine, spruce and aspen. Summers in the region are temperate and dry while winters are cool with heavy snowfall. Precipitation averages about 100 centimeters annually.

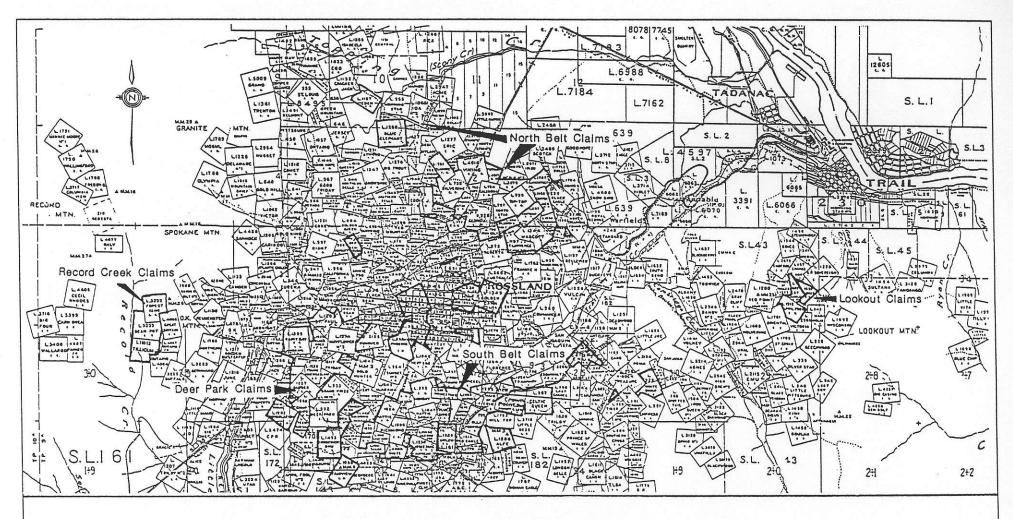
Access to most of the property areas is good along secondary gravel and dirt roads and tractor trails. A thin but pervasive till cover exists over much of the region, and outcrop exposure is consequently limited.

LAND TENURE, OWNERSHIP

GENERAL COMMENTS:

The Antelope-Bryndon joint venture properties in the Rossland area are listed in Appendix II to this report, and illustrated in Figures 2 and 3. These now include 92 mining claims and 47 fractional mining claims comprising approximately 2,300 acres. One of these claims (Neptune, L.1495-see Figure 3) lies about 12 kilometers north of Rossland and outside of the joint venture area of influence. However, for the purposes of this report it is considered as part of the joint venture holdings.

As indicated in Figure 2 most of the claims are included in three contiguous property areas termed the North Belt property, the South Belt Property

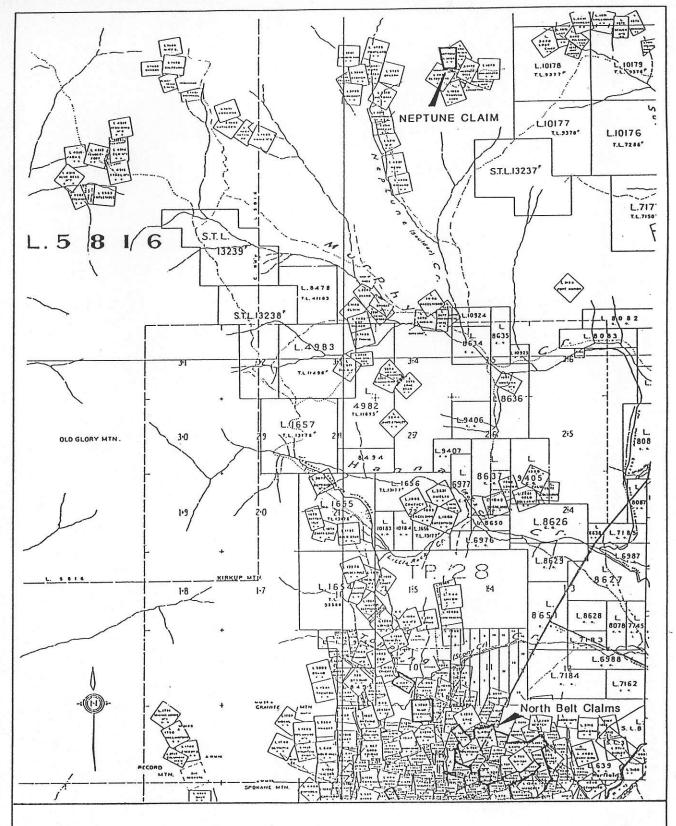


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ANTELOPE-BRYNDON JOINT VENTURE PROPERTIES
IN THE ROSSLAND AREA, BRITISH COLUMBIA



FIGURE 2



ANTELOPE RESOURCES LIMITED

LOCATION PLAN OF THE ANTELOPE RESOURCES NEPTUNE CLAIM, NORTH ROSSALND AREA, B.C.



FIGURE 3

and the Deer Park property. All exploration work of consequence to date has been concentrated within these areas, and the Lookout claims, the Record Creek claims and various individual claims elsewhere remain to be evaluated.

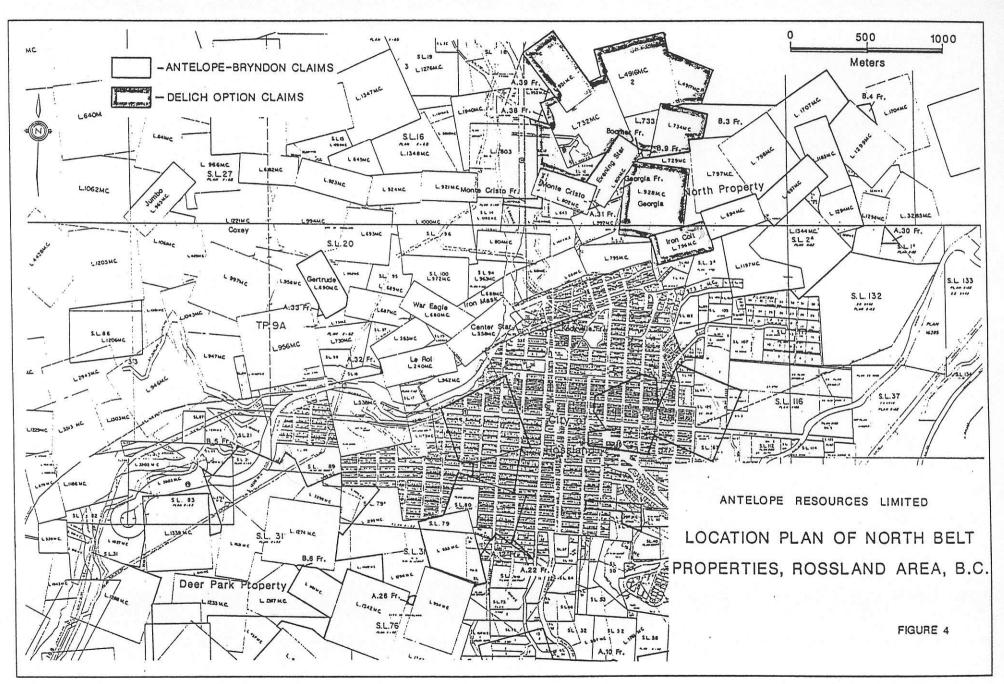
The three main property areas are illustrated in greater detail in Figures 4 and 5 to this report.

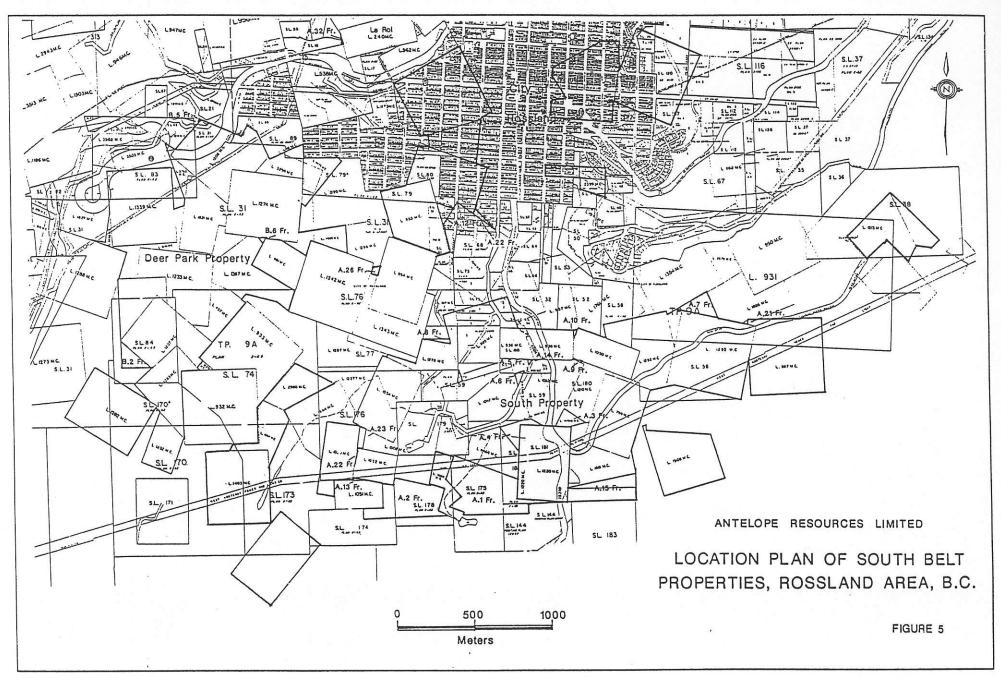
AGREEMENTS:

The basic effective agreement concerning these lands is the Antelope-Bryndon joint venture agreement of mid-1987. It took the initial form of an option on 45 crown granted mineral claims owned by Bryndon in which Antelope could earn an undivided 50 percent interest through the expenditure of \$ 500,000 over a $2\frac{1}{2}$ year period. This expenditure level has been reached, and the claims are now held under a joint venture with each party contributing a 50 percent share of exploration costs. The registration of the claims remains in the name of Bryndon.

Management of the project is the responsibility of Antelope, subject to the overall direction of a management committee made up of representatives of both parties. A field office is maintained in Rossland, and Mr. Frank Fowler is the project manager.

An area of influence is described in the vicinity of Rossland whereby any properties acquired by either party to the agreement become part of the joint venture. Antelope proceeded with the staking of reverted crown granted claims and fractions soon after involvement in the area, and while retaining title these are accordingly part of the joint venture holdings.





As shown in Figure 4 the original holdings of the Antelope-Bryndon joint venture in the North Property area included the Evening Star claim on which an attractive gold prospect is currently being explored. Late in 1988 the important Delich option was acquired on behalf of the joint venture. This includes 1 crown granted patented mineral claim and 8 crown granted mineral claims on which similar gold occurrences are known to be present.

HISTORY OF AREA

In 1890 shear controlled gold-silver-copper ores were discovered on the Le Roi, Center Star and War Eagle claims immediately northwest of Rossland. Production ensued shortly thereafter, and from 1981 to 1941 a total of 5,729,000 tons of ore were mined in the Rossland area, most of this from the aforementioned claims. Practically all of the ore produced from the area has been treated at the Cominco smelter complex in nearby Trail, and in fact the Rossland ores formed the inital feed for this facility.

The recorded production from the Le Roi-Center Star vein system was 3,945,000 ton gradong 0.475 oz.Au/ton, 0.495 oz.Ag/ton and 1.17% Cu. The main mining operations were closed in 1928, but the area saw small intermittent production until 1941. This later production included a recorded 137,000 tons by small lessors during the 1937-41 period. Also, from 1966 to 1972, 939,400 tons of open pit molybdenum ore at a recovered grade of 0.20% molybdenum were produced from the area by Red Mountain Mines Ltd. Most of this production came from the Coxey claim lying to the west of the Le Roi deposits.

In the North Belt property area the Evening Star claim produced a recorded 2,925 tons of ore at a recovered grade of 0.62 oz.Au/ton and 0.24 oz.Ag/ton

during its 1896-1907 and 1932-1939 operating periods. Small production was also reported from the Georgia, Iron Colt and Kootnay claims in this vicinity.

In 1980 Cominco optioned several of the claims in this area and drilled 20 vertical percussion holes in an attempt to define open-pittable, low grade gold reserves. The program was unsuccessful, however, and the program was terminated. Gallant Gold Mines Ltd. optioned most of the area in 1986 and proceeded with geological mapping, geophysical surveying and diamond drilling. This program, documented in a report by J.L. Hardy (Oct., 1986), also failed to define any significant zones of gold mineralization.

As noted, the Antelope-Bryndon joint venture acquired the claims comprising the North Belt property during 1987 and 1988. Geological mapping and geochemical surveying was undertaken during the summer of 1988, and test drilling on the Evening Star claim was initiated later that year.

In the South Belt property area claims were originally staked in the 1890's and were worked intermittently over the ensuing years. To 1951 the Bluebird-Mayflower zone had produced a recorded 1,612 tons of ore grading approximately 0.20 oz.Au/ton, 30.0 oz.Ag/ton, 3% Pb and 4% Zn. In 1947 Rossland Mines Ltd. (predecessor to Bryndon Ventures Ltd.) assembled the major portion of the present land package in this area, and during the 1972-77 period approximately 6,450 tons of ore were produced from the Bluebird zone by Standonray Mines Ltd. under a leasing arrangement.

In 1981 Bryndon commissioned C. Sampson to compile records of the properties held in the area, and update reserve calculations. On the Bluebird-Mayflower structure an in-place reserve estimate of 46,150 tons grading 0.09 oz.Au/ton, 9.37 oz.Ag/ton, 2.4% Pb and 3.95% Zn was developed. Also

during the early to mid-1980's Bryndon carried out VLF-EM surveying, trenching and some drilling in the area.

With the optioning of the South Belt property area by Antelope in 1987 geophysical surveying and mapping was undertaken, followed by a program of drilling and down-hole electromagnetic surveying. Some follow up drilling has since been done.

The claims comprising the Deer Park property were also first staked during the 1890's, and were largely acquired by Rossland Mines Ltd. during the late 1940's. Ownership derived to Bryndon, and the claims were subsequently optioned to Antelope. Mapping and geophysical surveying has just been started in this area.

GENERAL GEOLOGY OF AREA

The Rossland area is partially underlain by siltstones and quartzites of the Carboniferous Mount Roberts Formation, these lying in fault contact with a series of mafic volcanic and metasedimentary units of the Lower Jurassic Rossland Group. These units exhibit a regional north-south trend and a general westerly dip (see Map No. 1, in pocket).

The volcano-sedimentary Rossland Group has been intruded by the Rossland Monzonite in the form of an elongate, east-west trending mass in the central part of the map area. This, and associated intrusives including diorite, granodiorite, lamprophyre and serpentinite, are of late Jurassic age. The associated intrusives occur as northerly trending dikes and sills as well as masses of batholithic proportions. The Trail Granodiorite, for example, underlies the entire northeasterly part of the Rossland area. Deformation and metamorphism of the containing volcanic and sedimentary units are common

features in contact areas. Tertiary intrusive action, represented by the presence of the Coryell syenitic intrusions, has also taken place in the area.

A unique feature within the volcano-sedimentary sequence of the area is the Red Mountain breccia complex, lying 1.5 kilometers northwest of the city of Rossland. This may represent a volcanic neck developed as part of the late Jurassic intrusive cycle.

A series of northerly-trending faults extends through the western part of the area. It is likely that these also formed during the period of intrusive activity, and involved mainly uplift of the area to the west. Throughout the area two main fracture and shear directions are noted. These include a north-south set of faults which dip steeply east, and an east-west set of shearing and fracturing which dips to the north. The north-south structures are frequently occupied by dikes, and often offset the east-west shear systems.

Finally, it will be noted in respect to the Rossland Monzonite that its contact is sinuous and often quite irregular. The lobe extending to the north of the city of Rossland is spatially related to the major gold-sulphide deposits of the area.

ECONOMIC GEOLOGY OF THE AREA

As noted by D.S. Westoll (Geol. Report, August 18, 1987), the Rossland area produced approximately 6.2 million tons of ore with a recovered grade of 0.47 oz.Au/ton, 0.60 oz.Ag/ton and 1% Cu. Ninety-eight percent of this production came from four adjacent properties (Le Roi, Center Star, War Eagle, Josie) lying immediately northwest of Rossland. This area is indicated on Map No. 1 (in pocket) as the "Le Roi Vein System". The balance

of this Au-Ag-Cu production amounted to approximately 100,000 tons, coming from about 50 small mines throughout the area. Several of these, of course, are included within the present Antelope-Bryndon joint venture properties.

Significant molybdenum production, recorded at 1,652,970 kg, also came from the Rossland area. This open pit operation was centered on the Coxey claim lying about 1.5 kilometers northwest of Rossland. As indicated on Map No. 1 (in pocket) this location lies within the Red Mountain breccia complex. Significant gold values have been reported associated with molybdenite mineralization in this area, but there is no evidence that gold was recovered in the course of the mining operation.

Mineralized veins in the Rossland area commonly strike in an easterly direction (Az. 60° to Az. 120°) and dip 60° to 80° to the north, and there are few exceptions to this pattern. Although veins may be continuously mineralized over hundreds of meters, ore concentrations occur as a lensitic series of shoots up to 30 meters in width, 120 meters in length, and extending to depths of over 400 meters. While these dimensions were those exhibited in the Le Roi mine vicinity, the smaller deposits of the area appear to conform to this same lensitic pattern along shear systems.

Workers in the area have noted a number of other factors which appear important in one locallization. They are as follows:

- 1. Proximity to the Rossland Monzonite contact.
- 2. The intersection of N-S structures and E-W shearing.
- 3. The intensity of fracturing.
- 3. The development of shearing along the contacts of intrusive dikes or tongues.

Mineral zonation is also a characteristic of the vein-type deposits of

the Rossland area. These were broadly classified by R.I. Thorpe (unpub. Thesis, U. Wisconsin, 1966) as shown in the following tabulation:

Classification of Mineral Assemblages In the Rossland Camp

	Croup 1	Group 2	Group 3	Group 4	Group 5
HINERALOGY	PYRRHOTITE CHALCOPYRITE pyrite sphalerite solybdenite arsenopyrite native silver	CALEMA SPHALERITE TETRAHEDRITE BOULANGERITE pyrrhotite pyrite arsenopyrite native bismuth chalcopyrite magnetite	SPHALERITE MATIVE BISHUTH BISHUTHINITE pyrrhotite chalcopyrite pyrite areenopyrite scheelite	MAGNETITE pyrrhotite chalcopyrite pyrite arsemopyrite	NATIVE BISHUTH BISHUTHINITE pyrrhocite pyrite chalcopyrite arecopyrite cobaltite scheelita
GOLD	CHALCOPYRITE	TETRAHEDRITE boulangerite	ĭ	τ	1
Au:Ag RATIO	нтсн	t.ov	t	ı	τ
HODE OF OCCURRENCE	HASSIVE SULPHIDE REPLACEMENT	dissemination and narrow veinlet replacements	dissemination and narrow veinlet replacements	dissemination and narrow veinlet replacements	dissemination and narrow veinlet replacements
ALTERATION	Silicification biotite/sericite	chlorite	7	t t	1
STRUCTURAL	east-vest	east-vest	east-vest	east-vest	east-vest
HOST LITHOLOGY	VOLCANICS monzonite	VOLCANICS	SEDIMENTS volcanics	HONZONITE	VOLCANICS monzonite

As the vein type deposits of the area are spatially and probably genetically related to the Rossland Monzonite, it is possible that the different assemblages reflect zoning action in mineral deposition. In this eventuality both horizontal and vertical zoning should be evident within a given mineralized shear system, with the Pb-Zn-Ag assemblage occurring furthest from source.

EXPLORATION, NORTH PROPERTY AREA

GENERAL COMMENTS:

The claims included in the North Belt Property are shown in Figure 4, and a geological map of the central area of the property is included herein as Map No. 2 (in pocket). It will be noted that the property area covers much of the northern and eastern contact of a prominent lobe of the Rossland Monzonite mass, and that the shear systems hosting the important deposits of the Le Roi mine area to the west appear to extend through this mass into the property area. As shown on Map No. 1 (in pocket), the Le Roi shear itself lies on strike with that extending through the Iron Colt claim.

Summaries of the geology and mineral occurrences within the more important claims of the property area as compiled by J.L. Hardy (Report on the Gallant Gold Mines Ltd. Program of October, 1986) are included herein as Appendix III. Small production of gold ore is noted from several of the claim areas described. The only claims not included in the present Antelope-Bryndon joint venture package in this area are the Columbia and Kootnay claims, which lie immediately east of the Iron Colt claim.

GEOLOGY, PROSPECTING:

The Evening Star claim was geologically mapped and prospected by D. Wehrle of Antelope during the summer months of 1988. This work was not extended into important adjoining claims such as the Georgia as they have been only recently acquired by the joint venture.

In the course of this work rock geochemical samples were taken in outcrop

areas, and the underground workings accessible from the old Evening Star adit were examined and sampled. Excellent gold values were reported from the narrow Evening Star vein system exposed in the workings, and the zone proved substantially anomalous particularly beyond the known workings toward the west.

Geologically the claim area was found to underlain by monzonite, andesite tuff and agglomerate and hornfels as shown on Map No. 2. Vertically dipping lamprophyre dikes were noted striking across the property at Az 340°.

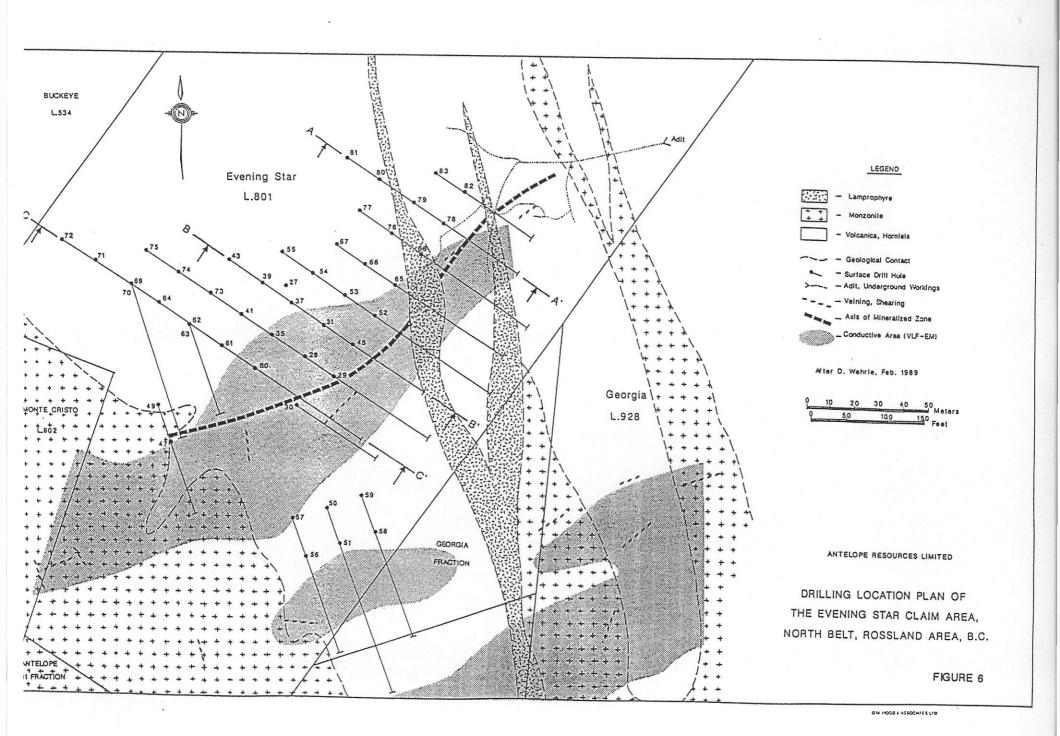
GEOPHYSICAL SURVEYS:

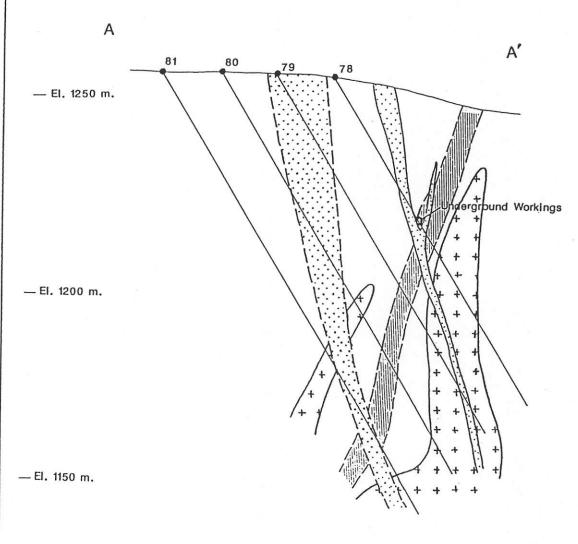
VLF-EM surveying was carried out over part of the property area along lines spaced at 25 meters. The conductive zones shown on Map No. 2 were defined by this survey, showing good strength to the southwest of the workings.

DIAMOND DRILLING:

Diamond drilling utilizing two machines equipped to drill NQ core was started in late 1988. To date 40 holes have been completed on the Evening Star zone, most drilled at -60°, Az. 120° on 50 foot centers, and an additional 6 holes at -60°, Az. 160° at the same spacing have been drilled on an VLF-EM anomaly to the south. The location of these holes is shown on Figure 6 to this report. Drill sections A-A', B-B' and C-C' across the Evening Star zone are included herein as Figures 7, 8 and 9.

The results of this drilling, limited by the availability of data, are shown in Appendix V and must be considered highly encouraging. The mineralized zone for the most part consists of a strongly mineralized and silicified





All holes remain to be fully logged and sampled. Zonal definition is as shown, and contains well mineralized sections.

LEGEND

Lamprophyre

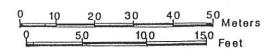
- Lamprophyre

- Monzonite

- Volcanics, Hornfels

- Mineralized Zone

- Drill Hole

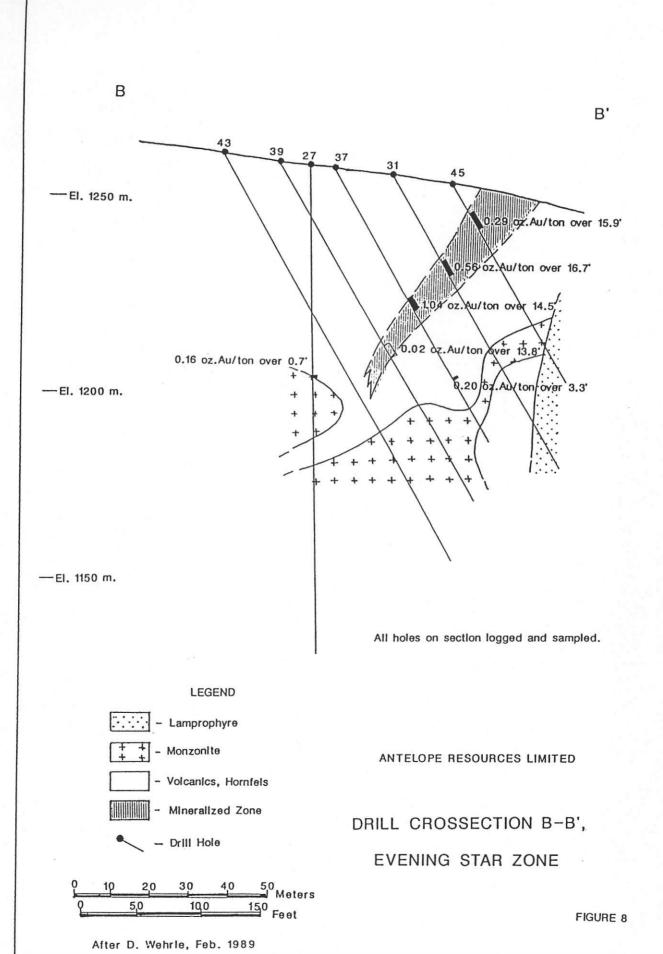


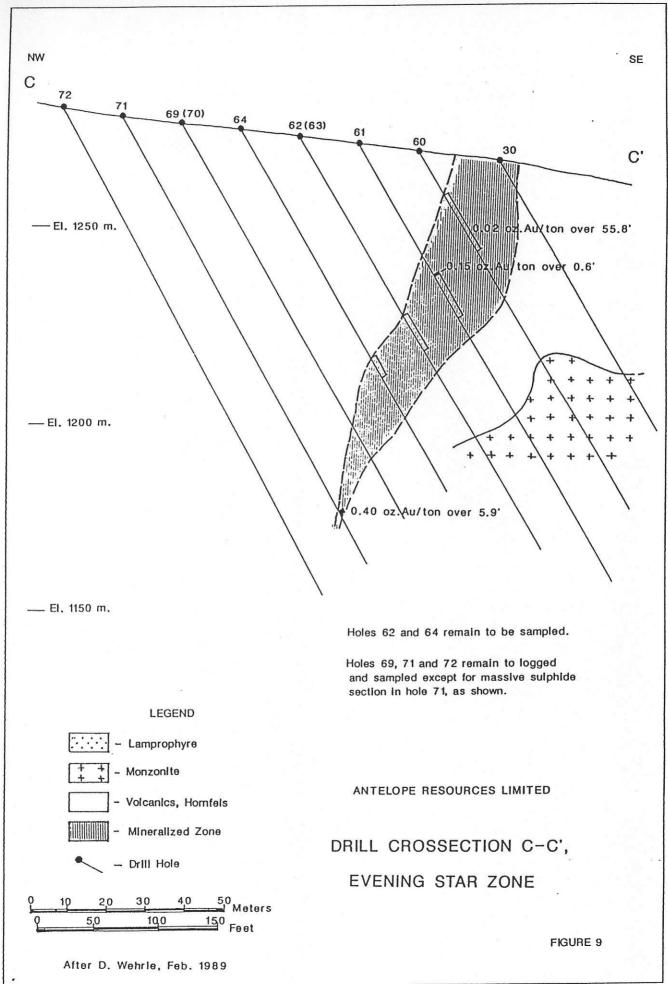
After D. Wehrle, Feb. 1989

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DRILL CROSSECTION A-A',
EVENING STAR ZONE

FIGURE 7





section in andesite tuff and agglomerate. The contained sulphide mineralization includes pyrrhotite, arsenopyrite, chalcopyrite and pyrite in amounts varying from massive proportions to disseminations of 10 to 15 precent. Visible gold is occasionally present and values appear closely associated with arsenopyrite.

The zone varies from a few feet to over 50 feet in thickness, and has been traced to date over a length of 525 feet (160 m.). The deepest intersection thus far is at a depth of 317 feet (97 m.). It strikes at Az. 30° and dips approximately 70° to the northwest. The average true thickness of the zone calculated on current data is 13.7 feet.

In respect to the drilling completed it will be noted that holes 67 to 70 inclusive, 72 to 77 inclusive, and 83 remain to be logged and sampled. Further, as shown in Appendix V, several additional holes remain to be sampled. When this additional information becomes available the closely spaced drilling data will make possible a very close estimate of the grade and contained tonnage of the zone as presently tested, as well as an accurate definition of gold distribution. The presence of steeply plunging higher grade shoots within the mineralized zone, for example, is a distinct possibility.

In reference to Section C-C' (Figure 9) two important features of this gold-bearing locus are apparent. First, the auriferous zone within the volcanics is broadening as the monzonite contact is approached, with an apparent decrease in gold values. However, the intersection reported at 0.40 oz.Au/ton over 5.9 feet in hole 71 consists of massive sulphides in close proximity to monzonite. This type of mineralization is typical of that encountered at the Le Roi mine to the west.

All assaying for the project is done by Bondar Clegg laboratories in

Vancouver, B.C. Fire assaying is completed on all core samples with an appropriate checking procedure. Accordingly, the writer is satisfied that the analytical results reported are of good accuracy.

The VLF-EM anomaly drilled to the south of the Evening Star zone yielded only a single, narrow auriferous intersection in hole 56. The area does not appear to be of further interest at this time. No drilling has been carried out in the Georgia prospect vicinity to date, but it obviously constitutes a very attractive exploration area.

EXPLORATION, SOUTH PROPERTY AREA

GENERAL COMMENTS:

The claims included in the South Belt property area are shown in Figure 5, and a geological map of the central and east part of the property is included herein as Map No 3 (in pocket). As indicated the property area lies along the southern margin of the Rossland Monzonite mass, about one kilometer south of the city of Rossland.

The summary from the report of Neil D.S. Westoll (Geological Report on the Rossland Property, B.C. for Antelope Resources Ltd., Aug. 18, 1987) is included with this report as Appendix IV, and describes in broad terms the geology of the area and the mineral reserves estimated to occur within it. The Homestake-Gopher mineralized shear system to the north, and the Bluebird-Mayflower mineralized shear system a few hundred meters to the south are noted as excellent exploration targets for deposits of the Le Roi type.

GEOLOGY, PROSPECTING:

The area represents the original exploration locale of Antelope in the Rossland district, and was remapped and sampled by the company during 1987. This work showed the area to be underlain by hornfels, siltstone and volcanic tuff and congolmerate of the Rossland Group for the most part, these units lying in arcuate configuration to the south of the Rossland Monzonite. Formational strike varies from Az. 30° to Az. 330°, and they dip steeply to the west. The Rossland Monzonite contact is sinuous, lying partly within the property area, and trends in an easterly direction.

Three main easterly-trending mineralized shear systems are known within the property area. These are, from the north, the Homestake-Gopher system, the New Zone system, and the Bluebird-Mayflower system. The Homestake-Gopher and New Zone systems eontain mineralization of the gold-bearing pyrrhotite-chalcopyrite assemblage type, and the Bluebird-Mayflower system mineralization of the tetrahedrite-galena-sphalerite-boulangerite assemblage type. The three shear systems dip steeply to the north, and transect the rock units of the Rossland Group.

The Homestake-Gopher shear zone strikes at Az. 100° and dips 70°N. It is traceable for approximately 600 meters, and has been explored in the vicinity of the Homestake shaft to a depth of about 90 meters. Chip samples from surface trenches in this area have reported values as high as 0.302 oz.Au/ton and 0.88 oz.Ag/ton.

The New shear zone strikes at Az.70° and dips approximately 75° N. Chip sampling in surface trenches have reported values as high as 0.355 oz.Au/ton and 0.97 oz.Ag/ton, and a drill intersection obtained by Bryndon in 1986 reported at 0.664 oz.Au/ton and 0.91 oz.Ag/ton over a 2 meter core length.

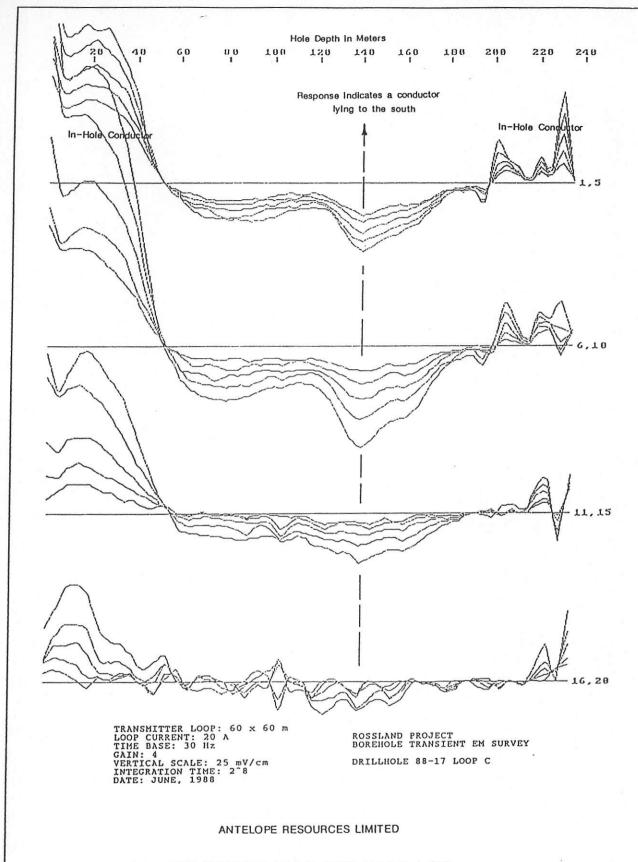
The Bluebird-Mayflower shear zone strikes at Az. 300°, dips 60° N, and is traceable for about 600 meters. As has been noted both the Bluebird and Mayflower adit areas have seen some production, and total reserves estimated within the system (Sampson, 1981) are 46,150 tons grading 0.09 oz./ton Au, 9.37 oz.Ag/ton, 2.4 % Pb and 3.95% Zn.

GEOPHYSICAL SURVEYS:

The property area has been covered by aerogeophysical survey, and the eastern part of the property by ground VLF-EM and magnetic surveying. The conductive areas lying in the vicinity of the three major shear systems (see Map No. 3, in pocket) were defined in the course of this work. Since acquiring the property under the joint venture agreement Antelope has performed some induced polarization surveying in the shear zone areas, and Transient (Down-Hole) Electromagnetic surveying from 12 vertical drill holes drilled for this purpose. The major TEM anomalies defined in this program are also shown on Map No. 3.

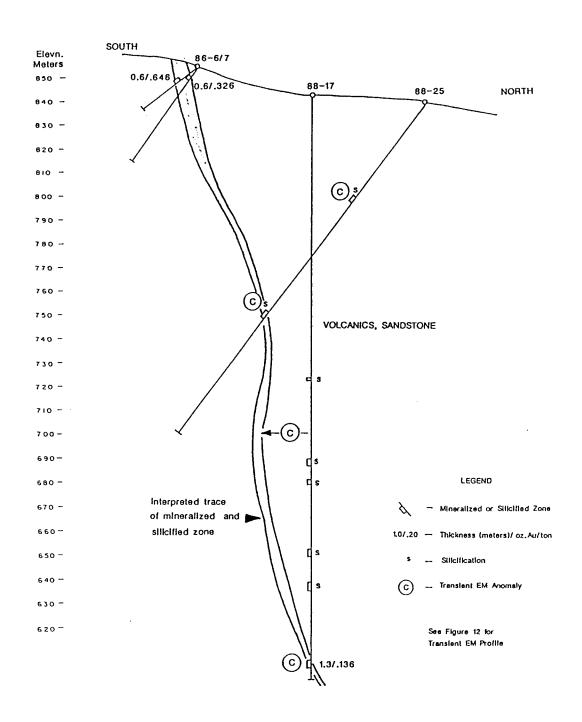
The TEM system involves the drilling of vertical test holes at intervals to allow adequate survey coverage, in this instance, holes spaced at 200 meter intervals to depths of about 250 meters. Each drill hole is then logged from five transmitter loops which are oriented using established grid directions. The data so obtained is then analyzed to define both conductive zones intersected in the hole, and conductive zones in proximity to the hole. A typical log, showing the C Loop response in hole 88-17 (along the New Shear system) is shown in Figure 10. The actual drill section showing the position of this offset anomaly is shown in Figure 11.

This survey method is an effective one in this environment, that is, to detect lensitic massive sulphide concentrations within the plane of a defined shear system.



TRANSIENT EM BORE HOLE LOG, HOLE 88-17, SOUTH BELT PROPERTY

FIGURE 10



ANTELOPE RESOURCES LIMITED

CROSSECTION 500E ON THE 'NEW ZONE'

OF THE SOUTH BELT PROPERTY

FIGURE 11

DIAMOND DRILLING:

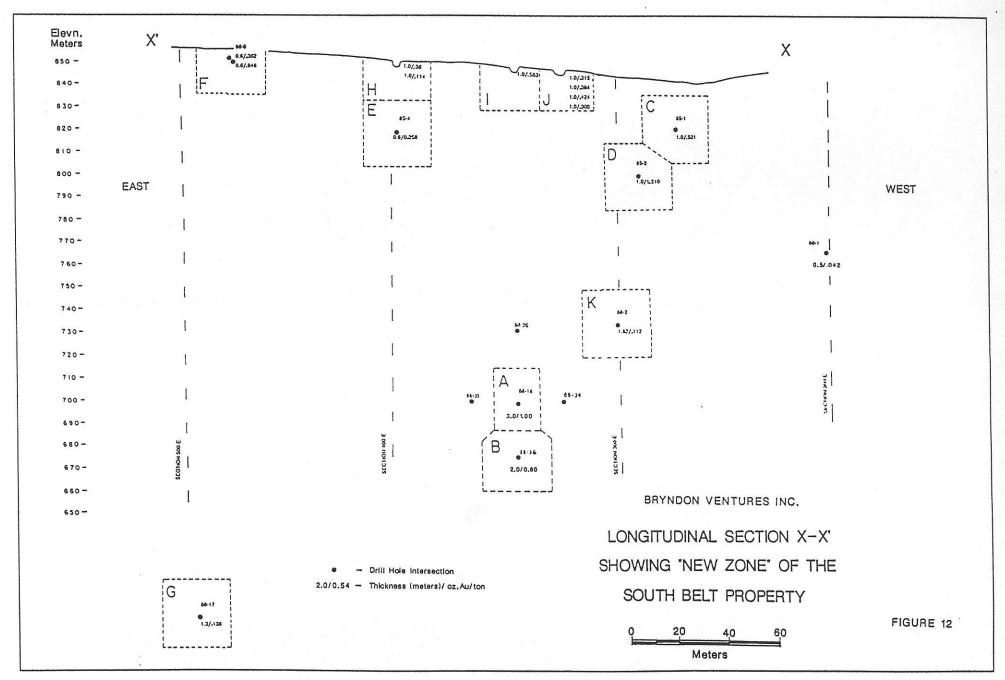
Drilling commenced in the eastern part of the South Belt property area during 1988, and to the present has totalled 36 holes comprising 6,700 meters (NQ core). Of these, 12 holes (2,880 m.) were drilled to establish the TEM grid, 11 holes (1,520 m.) were drilled to test IP/VLF-EM anomalies along the three shear systems, and 13 holes (2,300 m.) drilled to test TEM anomalies and follow up on intersections.

In the course of this drilling massive sulphide mineralization (pyrrhotite, chalcopyrite, pyrite) was intersected within sheared volcanics in TEM survey hole 88-18. This intersection, within the New Zone shear returned an assay value of 1.00 oz.Au/ton over a 3 meter core length (see Figure 12, Longitudinal Section). Also shown are follow-up holes 88-26, 88-33, 88-34 and 88-36, drilled at a spread of about 30 meters around 88-18. Of these holes only 88-36 returned a value of significance (0.80 oz.Au/ton over a 2.0 meter core length) illustrating the lensitic and erratic nature of the strongly mineralized zones within the shear systems of the area.

However, as inspection of this longitudinal section will show, the program is by no means complete, and a number of targets remain to be tested in this and the other major shear systems.

EXPLORATION, DEER PARK AND OTHER PROPERTIES

As noted, mapping and geophysical surveying is in progress on the Deer Park property, and there are currently no exploration results available on this work. However, in reference to Map No. 1 (in pocket) it will be noted that the property area is located at the west end of the Rossland Monzonite mass, and contains peripheral units of the Rossland Group. Also,



some mineralized vein systems are known to occur within the property area, particulary associated with an irregularity along the northern contact of the Rossland Monzonite.

No exploratory work on additional properties held by the joint venture is currently planned, but will be undertaken to complete their evaluation in the future.

INTERPRETIVE CONSIDERATIONS

NORTH BELT PROPERTY AREA:

At least three strong mineralized shear systems lie within the North Belt property area. Work to date has been concentrated on the Evening Star zone with excellent results. While data available at this time is insufficient to allow a reasonably accurate reserve estimate, there is a very good possibility that an economically viable gold deposit will be outlined in this location.

The closely spaced drilling along the Evening Star zone is providing sufficient geological and assay detail to clearly establish the character of the mineralized system. This model will aid in the evaluation of the results of more widely spaced drilling which will be carried to depth in this instance, and in the evaluation of other shear systems known to occur in the area.

In the Evening Star location the occurrence of massive sulphide mineralization of the Le Roi type in hole 71 is considered particularly significant. It suggests the juncture of shear systems and the monzonite contact zone as prime depositional loci in this area, and all such locations should

therefore be thoroughly tested. Further, the apparent increase in intensity of mineralization with depth indicates that vertical as well as lateral zoning exists in the area, and that all strong shear systems which are substantially anomalous in gold should be tested to depth.

In this latter regard it will be remembered that the Le Roi mineralized zone itself was not overly impressive in surface exposure, and that the true nature of the deposit was not recognized until workings had reached depths of 100 to 200 meters. It should also be noted that while depositional parameters will likely vary along the north contact of the Rossland Monzonite, the adit elevation of the Evening Star claim is approximately 100 meters above the Le Roi shaft collar.

SOUTH BELT PROPERTY AREA:

Exploration along the mineralized shear systems of the South Belt property area has yielded some excellent intersections. However, it has failed thus far to demonstrate acceptable continuity of mineralization. Nonetheless a number of geophysical targets along these systems have not been tested and this remains an important project requirement.

The profound difference between the mineralogical assemblages of the Bluebird-Mayflower zone and those to the north is striking. This may have developed as a measure of distance from source, or as a result of separate pulsations in the gross mineralizing cycle. Since there is no notable intermixing of assemblages, however, and the Bluebird-Mayflower system lies furthest from the main monzonite contact, the former case appears more likely.

This suggests that lateral zoning of mineralization exists in the area, and that vertical zoning may also be expected. As noted in respect to the

North Belt property area the zoning process may also involve increase in the intensity of mineralization with approach to source. Accordingly, some consideration should be given to testing the more northerly mineralized shear systems to greater depth.

OTHER PROPERTY AREAS:

Exploration results from joint venture operations thus far have emphasized the importance of the contact area of the Rossland Monzonite as a depositional locus. Thus the evaluation of mineralized shear systems in this environment, and particularly in areas of irregularity of the contact, should be carefully and thoroughly carried out within the Deer Park property area.

EVALUATION REQUIREMENTS AND COSTS

GENERAL CONSIDERATIONS:

Exploration results in the Rossland area have proven encouraging, particularly in respect to the Evening Star zone within the North Belt property. Budgetary allotments have been made for the second quarter of 1989, providing essentially for the continuation of the current programs in the North Belt, South Belt and Deer Park property areas. These will be discussed in the following sections.

Ongoing exploration requirements of a general nature will also be estimated herein, and may be considered to cover the remaining period to the end of 1989. While future work requirements on the Evening Star zone are contingent to some degree on forthcoming drilling results, provision will be made for some underground exploration.

EVALUATION REQUIREMENTS:

In the North Belt property area some additional drilling remains to be completed on the current Evening Star program, and provision is made for an additional 2,000 meters of more widely spaced deep drilling. In addition it is recommended that the present underground workings be refurbished for access, and an additional 150 meters of drifting on the zone to allow chip and bulk sampling of the mineralized material.

Geological mapping and rock geochemical sampling should also be completed in the Georgia and Iron Colt areas, and provision is made for 4,000 meters of test drilling in these locations. It is also estimated that 20 kilometers of combined VLF-EM/magnetic surveying will be required to extend geophysical coverage over areas of interest within the property area.

Within the South Belt property it is estimated that 3,000 meters of drilling will be required for zonal and geophysical anomaly evaluation, and an additional 2,000 meters for deep drilling purposes.

The basic coverage of the Deer Park property will be largely completed by the end of the second quarter of 1989. However, provision will be made for detailed mapping and sampling of prospects, and 5,000 meters of test drilling in this area.

PROJECT COSTS TO DATE:

During the period June, 1987 to mid-February, 1989 an approximate total of \$ 1,333,200 has been spent in exploration by the joint venture partners in southern British Columbia. While properties are held in other areas, practically all expense has been incurred in respect to operations in the Rossland area.

By mid-1988 the exploration expenditure level of \$ 500,000 required under the agreement had been met by Antelope, and the Antelope-Bryndon joint venture was formed. Since that time each party has assumed a 50 percent share of ongoing exploration costs, equating to approximately \$ 416,000 each to the present. Antelope manages the joint venture project at a 10 percent management fee.

BUDGETED COSTS TO JUNE 30, 1989:

The following exploration costs have been budgeted and approved by the joint venture management committee for the period February 15 to June 30, 1989:

Contract Physical Services\$ Drilling (3,000 m., all inclusive) Assay Cost	22,500 400,000 15,000 6,000 30,000 9,000 17,500 72,500 30,000 15,000
Subtotal\$ Contingencies (@ 10%)\$ Exploration Expense\$ Management Fee (10%)	61,700
Total Estimated Cost for Period\$	747,100

ESTIMATED COST, BALANCE OF YEAR:

The following exploration costs are estimated for the Rossland project for the period July 1, 1989 to December 31, 1989.

Contract Physical Services\$	30,000
Drilling (14,000 m., all inclusive)	560,000
Underground Refurbishment	150,000
Drifting (150 m.)	150,000
Sampling, Sample Transfer	45,000
Metallurgical Test Work	20,000
Assaying Cost	60,000
Field Equipment and Supplies	25,000
Field Office Expense	35,000
Recording, Assessment, Rental	120,000
Contract Wages, Consulting	75,000
Wages, Benefits	300,000
Legal	120,000
Option Payments	60,000
	1,750,000
Contingencies (@ 10%)	175,000
Exploration Expense\$	1,925,000
Management Fee (10%)	192,500
Total Estimated Cost for Period\$	2,117,500

SUMMARY OF ESTIMATED COSTS:

Estimated Costs Feb. 15 to June 30, 1989\$	747,100
Estimated Costs July 1 to Dec. 31, 1989	2,117,500
TOTAL ESTIMATED COST FOR PERIOD\$	2,864,600

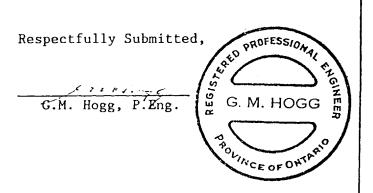
CONCLUSIONS & RECOMMENDATIONS

The Antelope-Bryndon joint venture holds three large property areas and several claims in the Rossland area. The three large properties are located at the contact of the Rossland Monzonite mass, and are underlain chiefly by volcanic and sedimentary units of the Rossland Group.

Numerous easterly-trending mineralized shear systems occur at and near the monzonite contact, and one of these hosted the highly productive Le Roi Au-Ag-Cu deposit. Several similar mineralized shear systems occur within the main joint venture properties, and some of these have seen intermittent minor production since the late 1800's. Oddly few of these mineralized areas have been extensively explored, particularly to depth, even though it is apparent that the monzonite contact area is highly favourable and evidence of both lateral and vertical zoning exists.

The joint venture has located a very promising gold prospect on the Evening Star claim of the North Belt property, and drilling is in progress in this location. It is recommended that underground sampling be carried out on this prospect during 1989, and since there are indications that the mineralization intensifies at depth, that some deeper test drilling be done.

Similar situations occur within the North Belt property, the South Belt property and the Deer Park property, and it is strongly recommended that exploratory work be continued in all of these areas. A program to this purpose has been recommended at an estimated cost of \$ 2,864,600 for the balance of 1989.



CERTIFICATE OF QUALIFICATION

I, Glen M. Hogg, of the City of Toronto, County of York, in the Province of Ontario, Canada, do hereby certify that:

- I am a Consulting Engineer, principal of the firm of G.M. Hogg & Associates Ltd., with an office located at 28 Thompson Avenue, Toronto, Ontario.
- 2. I am a member of the Association of Professional Engineers of Ontario, and a registered Consulting Engineer with that organization.
- 3. I am a graduate of Queen's University of Kingston, Ontario, having received the degree of Master of Science in Geological Sciences therefrom in 1952. I have since practised professionally in the fields of mineral exploration and development.
- 4. I am familiar with the Rossland area and the Antelope-Bryndon project, and last visited the project area during January, 1989. In the course of this study I have used the records of the Ministry of Energy, Mines and Petroleum Resources of British Columbia, and information supplied by the Antelope-Bryndon joint venture.
- 5. I hold no interest in Antelope Resources Limited or Bryndon Ventures Inc., nor in any of the properties on which this report is written; nor do I expect to receive any.

Dated in Toronto, Ontario, this / day of firm, 1989.

G.M. Hogg, P.Eng

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	APPE	NDIX I			
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		ome Sources of			
•	Information on	the Rossland Ar	ea		
				HOGG & ASSOCIATES LTD.	

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APPENDIX I

Listing of Some Sources of Information on the Rossland Area

Beddoe-Stephens, B., 1982; "The Petrology of the Rossland Volcanic Rocks", GSA Bull. 93, p. 585-594.

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Drysdale, C.W., 1915; Geology and Ore Deposits of Rossland, B.C. G.S.C. Memoir 77.

Fyles, J.T. et al, 1973; "The Age of Sulphide Mineralization at Rossland, B.C.", Econ. Geology 68, p.23-33.

Fyles, J.T., 1984; Geological Setting of the Rossland Mining Camp, BCDM Bulletin 74.

Gilbert, G., 1948; "Rossland Camp" in Structural Geology of Canadian Ore Deposits (Jubilee volume) CIM pp. 189-196

Haggen, R.W., 1930; "Report on the Georgia and Mascott Groups, Rossland, B.C.", Report for the Gold Cup Mining Co., July 16, 1930.

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Hardy, J.L., 1984; "Property Examination Report, Georgia Claims" private company report for Falconbridge Ltd.

Hardy, J.L., 1986; "Geological and Diamond Drilling Report on the Georgia Property, Trail Creek Mining Division, B.C.", for Gallant Gold Mines Ltd.

Little, H.W., 1985; Geological Notes, Nelson West Half Map Area GSC OF 1195.

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Nichols, R.F., 1980; "Delich Option, Georgia Property, 1980 Year End Report", Cominco Ltd., April 10, 1981.

Ridley, J.C. and Troup, A.G., 1983; "Report on the Georgia Property, Gallant Gold Mines Ltd.", November 1983.

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Thorpe, R.I., 1966; "Controls of Hypogene Sulphide Zoning, Rossland, B.C.", Ph.D. Thesis, U. of Wisconsin.

Troup, A.G., 1982: "Report on the Georgia Property", August 10, 1982.

Troup, A.G., 1984; "Report on the Georgia Property", June 1984.

Westoll, Neil D.S., 1987; "Geological Report on the Rossland Property, B.C.", for Antelope Resources Ltd.

Young, G.A., 1909; Special Map of Rossland, B.C. Geological Sheet, GSC Map 1002.

APPENDIX II

Listing of Antelope-Bryndon
Joint Venture Claims
in the Rossland Area

APPENDIX II

Listing of Antelope-Bryndon Claims in the Rossland Area

Rossland Group - The Company has title to the following claims and they are subject to Bryndon-Antelope Joint Venture agreement under which the Company has a 50% interest.

Fractional Claim	Record	Anniversary Date
Antelope #1-7 Fr.	1001 - 1007	July 08, 1992
Antelope #8 Fr.	1016	August 13, 1992
Antelope #9-13 Fr.	1020 - 1024	August 29, 1989/92
Antelope #14 Fr.	1058	January 07, 1992
Antelope #15 Fr.	1059	January 07, 1992
Antelope #16 Fr.	1060	January 25, 1992
Antelope #17-19 Fr.	1061 - 10633	January 25, 1992
Bender #1-2 Fr.	1017 - 1018	August 13, 1991
Bender #3-6 Fr.	1025 - 1028	Λ ugust 28, 1989/91
Bender #7-8 Fr.	1073 - 1074	May 03, 1989
Bender #9 Fr.	1087	May 25, 1989
Antelope 20 Fr.	1083	May 12, 1989
Antelope #21-23 Fr.	1075 - 1077	May 03, 1989
Antelope #24-25 Fr.	1078 - 1079	May 03, 1990
Antelope #26 Fr.	1080	May 03, 1989
Antelope #27 Fr.	1081	May 03, 1990
Antelope #28 Fr.	1082	May 03, 1992
Antelope [29 Fr.	1084	May 12, 1992
Antelope ∦30-33 Fr.	1091 - 1094	June 20, 1989
Antelope #38-39 Fr.	1125 - 1126	August 15, 1989
Antelope #40 Fr.	1210	November 08, 1989
Antelope #41-42 Fr.	1243 - 1243	November 08, 1989
Modified Grid Claims		
Antelope (4 units)	1029	August 28, 1992
Golf #1	1069	February 04, 1991
Two Post Claims		
Bender #10-14	1064 - 1068	January 25, 1992
Key 1	1244	November 08, 1989
Reverted Crown Granted	1	
Two Post Claims		
Jumbo No. 3 Fr.	1000/L. 3030	July 14, 1991
Hattle	944/L. 1054	January 23, 1993
Gertrude	943/L. 690	January 23, 1998
Leinster Light	1048/L. 2397	September 10, 1989
Double Fraction	1047/L. 3753	September 10, 1991
East Columbia Mtn Fr.	1045/L. 3287	October 09, 1989
Boomer	1045/L. 961	October 09, 1989
Monte Cristo Fr.	1043/L. 12172	October 09, 1989
Knoxville Fr.	1044/L. 2196	October 09, 1989
Lincoln Fr.	1072/L. 2850	May 03, 1989
White Swan	1085/L. 929	April 22, 1989
Neptune	1086/L. 1495	April 22, 1989 April 25, 1989
Tillicum Fr.	1259/L. 11013	April 23, 1989 April 22, 1989
Forest King	1260/L. 3232	April 22, 1989
Bean Pot	1261/L. 3233	April 22, 1989 April 22, 1989
	, 2. 3233	npill 22, 1989

Rossland Group - The Company has a 50% interest in the following claims under the Bryndon-Antelope Joint Venture Agreement and Bryndon Ventures has title.

Crown Granted		
Mineral Claims	Lo	t No.
Tourmaline		457
Paris Belle	L.	531
Olla Posrida	L.	799
Home Stake	L.	936
Phoenix	L.	953
Celtic Queen	L.	987
Monday	L.	995
Derby	L.	998
Nattle Brown	L.	1047
Gopher	L.	1050
Lily May	L.	1052
Blue Bird	L.	1053
Fairview	L.	1058
Black Horse	L.	1059
Little Jack Fraction	L.	1080
St. Paul	L.	1208
Copper Queen	L.	1210
Venus	L.	1213
Badger	L.	1227
Green Crown	L.	1232
Young America	L.	1233
Mayflower No. 2	L.	1274
Tuesday	L.	1278
Consolation	L.	1282
Camp Bird	L.	1283
Robert E. Lee	L.	1292
Maid of Erin	L.	1293
Rainy. Day	L.	1339
Golden Dawn	L.	1349
Rhoderick Dhu	L.	1493
λlfe	L.	1506
Richmond	I	1508
Red Eagle	L.	1615
Modena	L.	1694
Black Rock	L.	1821
Spitzee Fraction	L.	2520
Esmeralda Fraction	L.	2980
Fool Hen	L.	3297
Tat Fraction	L.	3298
Ella Fraction	L.	
Alcome Fraction	L.	
St. Peter Fraction	L.	
Snowflake Fraction	L.	13116
Friday	L.	13117
,		

The Company has acquired the option to purchase the following claims under the Sideco and Butorac Agreements formerly owned by 326925 British Columbia Ltd. The agreements are registered in the Company's name. These claims are part of the Joint Venture Agreement with Bryndon.

Reverted Crown Granted Mineral Claims located in Trail Creek Mining Division, B. C.

Claim	Lot No.	Anniversary Date
Mascott	L. 1344	January 16, 1991
Kapai Fraction	L. 11012	January 16, 1991
St. Lawrence	L. 1197	January 16, 1991
G.B. Architect Fr.	L. 1707	January 16, 1991
Copper Jack	L. 1185	January 16, 1991
Michagamie	L. 1294	January 16, 1991
North Star	1. 797	January 16, 1991
Tip Top	L. 798	January 16, 1991

Crown Granted Patented Mineral Claims recorded in Nelson, B. C.

Georgia Fraction L. 4668 (unregistered Crown Grant No. 9798) Evening Star L. 801 (including Surface Rights as contained on 1987 Property Tax Notice) La Belle L. 729 (Unregistered Crown Grant No. 9799) Eden L. 1127 April Fool L. 1212 Blue Elephant L. 1280 St. Charles L. 1689 L. 1690 Joker

The Company has acquired a 50% interest in the option to purchase the following claims under an Agreement between Bryndon Ventures Inc. and Michael Delich. According to the terms of the Company's Agreement with Bryndon, these claims form part of the Joint Venture.

Georgia	L. 928	August 25, 1995
Viking	L. 4916	September 01, 1995
Pott	L. 733	March 09, 1995
Caledonia	L. 734	March 09, 1995
Putnam	L. 4917	March 09, 1995
Buckeye	L. 534	March 09, 1995
Iron Colt	L. 796	March 23, 1995
Elanore	L. 951	March 28, 1995
Silverine	L. 732	Crown Granted Patented Mineral Claim

APPENDIX III Claim Summaries, North Belt Property Area, From Report by J.L. Hardy, October, 1986

G.M. HOGG & ASSOCIATES LTD.

APPENDIX III

Claim Summaries, North Belt Property Area From Report by J.L. Hardy, October, 1986.

GEORGIA

The Georgia was staked on August 27, 1893 and from 1893 to 1897 was explored with a series of trenches, shafts and two adits. In 1937 the property was optioned by the Gold Cup Mining Co. Ltd. and from 1937 to 1941 was worked by with a series of trenches, diamond-drilling holes and hundreds of feet of underground workings on three levels. This led to the discovery of 12 veins with gold values ranging from trace to about 0.4 oz/ton. Grades from 0.15-0.25 oz/ton Au were repeatedly obtained across widths of 5-10 feet in massive pyrrhotite/pyrite veins with arsenopyrite and minor chalcopyrite. The strongest veins are over 15 feet in width with grades improving with depth (Haggen 1940, p. 18). Past production of 49 tons yielded 466 grams of gold and 653 grams of silver (Fyles 1982, p. 36), and suggests that best gold values are not always associated with the heaviest sulphides.

A company report dated 1940 states that reserves of 38500 tons averaging 0.228 oz/ton Au were drilled off along veins 11, 11A and 12 in 1938. Spot values up to 2.5 oz/t Au were recorded. Two ore shipments of 232 lbs. and 200 lbs. were sent for inetallurgical testing. The shipments averaged 0.225 and 0.30 oz/ton Au and lab tests indicated that 92.0% recovery could be obtained with cyanidation.

In 1938 a mining operation was recommended on the Georgia "in view of the highly favourable conditions for deeply seated ore bodies, the presence of ore stringers over a wide belt and ore at the east contact of the favourable diorite" (Haggen 1938, p.23) ie. those conditions which produced the large ore bodies of the Rosstand camp. This work was not completed but it was concluded that workings to that time did not reach the sections most favourable for ore deposition (Haggen 1940, p.4). Geological conditions were described as (Haggen 1938, p.9) similar to the Le Roi with the possibility that the vein in the SW corner of the Georgia was the Le Roi extension as augite porphyry was intruded by Rossland monzonite and both were penetrated by diorite porphyrite tongues of the Trail batholith. The #12 vein shown on Figure 5 lay only 3500' (1067 m) from the productive easterly limit of the Le Roi workings, trended sub-parailel, and so was assumed to lie along the same shear. A calcite stringer on the south wall was cited as supportive evidence, as this is also present in the Le Roi.

in 1980 the property was optioned by Cominco and explored for a low-grade stockwork that could be mined by open-pit mining methods. Cominco tested the property with 20 vertical percussion drill holes ranging in depth from 20 to 270 feet. The drill holes were all sub-economic ranging from 54 to 312 ppb gold. Cominco's report suggests the results are inconclusive since vertical drilling was used to test mineralization controlled by vertical structures.

in 1983, Gallant chip sampling in quartz stockworks in silicified sediments with pyrrhotite, arsenopyrite and minor chatcopyrite yielded best grades of 0.248 oz/t Au (47160) over 25 cm. Similar values were recorded in dump material (47163). Individual sulphide veins ranged up to 35 cm in width and provided grades up to 0.528 oz/t (47182) and 0.160 oz/t (47292) Au.

Mapping in 1986 suggests that the Georgia showings are underlain by quartz-bearing granodiorite of the Trail batholith which intrudes strongly hornfelsed pyrrhotite-rich siltstones and minor tuffs of the Elise Formation. Sampling In the No. 1 adit returned best values of 0.112 oz/t Au over 30 cm in 7 samples. This compares with historic values from 0.03 to 0.30 oz/t Au with hand-sorted bin samples yielding 0.44 oz/t Au. A total of 9 samples in the No. 2 adit provided only sub-economic values less than historic FW and HW averages of 0.055 and 0.06 oz/t Au respectively. Widths of up to 40 (t of siliceous ore which had been reported (Haggen 1940, p. 14) were not observed. The No. 3 vein, a strong morth-south vein which dips about 700W, provided best surface exposures of the Georgia mineralization. Maximum width was 1.35 m but best "in place" values in massive pyrrhotite were sub-economic.

lin addition there are 1000 tons of 0.228 oz/t Au listed as probable and 6500 tons of 0.375 oz/t Au listed as proven with extensions to the east and in depth indicated.

EVENING STAR

The Evening Star crown grant staked in 1890, lies immediately northwest of the Georgia claims. Little information is available on this claimbut B.C. Department of Mines records show that it was worked from 1896 to 1901, from 1907 to 1908 and from 1932 to 1941. About 2859 tons were mined to yield 56701 grams of gold and 21521 grams of silver. In 1935 it was the largest shipper from the camp and up until 1940 shipped several thousand tons of ore averaging 0.3 to 0.5 oz/t gold (Haggen, 1940). Assays up to 80 oz/t are reported (Drysdale 1914, p. 146); average ore ran 1.2 oz/t in one vein in a siltstone host.

In 1980 Comineo optioned the claim and explored it for a low-grade gold stockwork that could be mined by open-pit methods. Seven vertical percussion drill holes ranging in depth from 30 to 270 feet were put down. All were sub-economic. The best hole located near former workings assayed only 47 ppb Au.

The veins trend 65°, dipping at moderate angles to the NW. Best grades are reported where E-W stringers cross the large veins. Despite the limited production, extensive underground workings exist on the property with about 20,000 tons of hornfelsed siltstone and tuff on the dump in front of the lower adit (Troup, 1982). Two composite samples of dump material assayed 0.042 and 0.030 oz/ton gold

suggesting that mineralization extends into the wall rocks adjacent to the veins. A chip sample taken across a six-inch quartz vein exposed in the lower adit assayed 0.402 oz/ton gold (lbid). In 1983 best results were 0.312 oz/t Au in a 1.8 m zone with disseminated pyrrhotite/pyrite and 1.8% Cu; best grab results were 0.150 oz/t Au in a massive sulphide sample in a sedimentary host. More recently, dump samples of disseminated arsenopyrite and pyrrhotite showed highest values of 0.878 oz/t Au but gold distribution would appear to be erratic. Host rocks are hornsfelsed slitstones for the most part with lesser tuffs and granodiorite. Silicification is widespread but erratic. Aresenopyrite is common with the other sulphides in veins and disseminated up to 5% in the country rock. One chip sample of IW gave values of 0.22 oz/t Au over 1 m in silicified volcanics (Hardy, 1984).

In 1986 best results were obtained from a 1 m^2 panel which assayed 0.173 oz/t Au (83113C) in a limonitic siltstone with 5-10% very finely disseminated sulphides.

OVERVIEW GEORGIA - EVENING STAR CLAIMS

Past work concentrated primarily on evaluating the east-west veins typical of the main Rossland camp on the Georgia and Evening Star. Veins are generally steep dipping zones 5-10° wide in which average grades of 0.15 to 0.25 oz/t Au were consistently obtained. The underground workings tested an area about 200 mx 200 m. Within this area perhaps 4 major veins are present and traceable for up to 50 m along strike. Early drill holes have intersected the veins up to 70 m down dip. Several narrower veins are also intersected which trend N-S and usually connect two of the larger veins; these are often of replacement type along fissures. Past results sugest potential for the larger high grade veins over 230 m-300 m on strike and down dip at least 170 m. This has not been fully tested by the surface work to date.

Pyrrhotite, arsenopyrite and pyrite are present as disseminations to masses along the fissures. Locally, minor chalcopyrite may occur. Gangue usually forms only a small proportion of the vein and consists of very finely crystalline rock flour or impure quartz. Cominco concluded that a large percentage of gold appears to be associated with the arsenopyrite, but limited polished section work (Bob Buchan, Lakefield Research, personal communication, 1984) suggests that the gold is distinctly later than the arsenopyrite. From old data, wall rocks average 0.01 to 0.06 oz/t Au (Haggen 1938, 1940) and near the percussion drilling average 54-312 ppb over sections up to 60 ft. The 1986 results of 0.173 oz/t described above (83113C) also suggest potential for at least localized enrichment beyond that.

DUCKEYE

The Buckeye claim was staked in the early 1890's and explored with about 500 feet of underground workings prior to 1915. Two veins of 1.5 feet and 6" in width were encountered but there is no recorded production from the claim, despite the approximate 170 m extent of the old adit.

Limited sampling in the adit yielded gold up to 0.648 oz/t Au in a 0.14 m (47178:1983) wide series of quartz veins with chalcopyrite, pyrite and arsenopyrite in a possible intrusive host. Sampling just to the north along an old open pit provided 0.614 oz/t over a similar 1.4 m wide quartz vein (47184:1983). In 1986 best results were 0.156 oz/t Au from 20 cm of rusty weathered material; country rock was silicified and appeared to be granodiorite, though much of the adit appears to be within silicified siltstone. Several other adits are present on the claim and reported to be open but were not investigated (T.Eccles, personal communication, 1986)

Silverine

The Silverine crown grant was staked in 1890 and explored intermittently until 1944. Government files contain no information on the exploration or production history of this claim but the Trail smelter files show that 89 tons of ore averaging 0.54 oz/t gold were shipped between 1934 and 1944. A dump containing an estimated 1500 tons of waste is present on the claim.

Iron Colt

The Iron Colt was staked on August 6, 1890 and worked intermittently from 1896 to 1939. The property was explored with two adits and more than 2500 feet of underground workings. Massive sulphide ore carrying about 0.20 oz/ton gold is reported to have been discovered along the footwall of a monzonite dyke. No production records are available but small shipments averaging about 0.20 oz/ton gold are reported to have been made from the claim and a 20 ton shipment yielded 186 g of gold and 466 g of silver. (Fyles 1982, p.36) in 1936-37.

Gallant work shows that veins to 1.7 m wide are present with minor arsenopyrite and chalcopyrite in silicified sediments with up to 0.196 oz/t Au (47168:1983). Sulphides are disseminated in the wallrock for 10 m on opposite sides of the vein. Massive arsenopyrite and chalcopyrite veins to 90 cm with gold values to 0.478 oz/t Au are also present in a monzonite host. The Main vein, possibly the westward extension of the Columbia-Kootenay vein, strikes N63E with a steep N dip. It contains ore characteristic of the Columbia-Kootenay, described as "light-coloured, close textured with calcite seams and patches of chalcopyrite" (Drysdale 1915, p. 207). One chip sample of FW to massive sulphide veins collected ran 0.34 oz/t Au (Hardy, 1984). In 1986, adjacent to the Iron Colt on the St. Lawrence, a 1.2 m chip across the most intensely mineralized (pyrrhotite>>arsenopyrite) area gave 0.112 oz/t Au (83146C) within a probable silicified granodiorite. A 10 cm chip across a massive arsenopyrite vein with minor pyrrhotite and chalcopyrite yielded 0.054 oz/t (83143C) in a similar host.

Mascot

Three tunnels and several prospect shafts are reported on the claim for a total of about 3500' (1067 m) of development. The upper tunnel showed a couple of feet of fairly solid ore which is chiefly magnetite with little chalcopyrite. A 4-6' quartz vein is known to have yielded "good" values. Surface sampling is reported to have averaged 0.12, 0.25 and 0.30 oz/ton Au on the Main, Middle and Kapai veins (liaggen 1938, p.23) with highest values excluded. The Main vein is siliceous, extending for 1200 ft at 2 ft width and the Kapai for 1300 ft at an unspecified width, at least in places as much as 40 ft.

Chalcopyrite is present in the country rock, though the ore itself tended to be copper-poor. A total of 12800 tons of probable ore (above No. 3 level) at 0.193 oz/t Au occurs on the main Mascot vein and 800 tons of 0.429 oz/t Au on the Kapai vein (probable extension of the North vein) with more favourable geology on the west extending on the St. Lawrence claim. Workings in this area have historically produced very high surface values which may represent concentrations due to weathering. Magnetite is present locally in the North vein.

In 1986, the best surface showing on the Mascot was a coarsely crystalline lens of massive pyrrhotite with 1-2% chalcopyrite (00983E). Exposed in a road bed, it yielded 0.008 oz/t Au over 0.8 m. Wallrocks averaging 0.005 oz/t Au (0984E, 0985E) are bleached, silicified and brecciated and strongly resemble material from about a 44.3-44.4 m (145.3-145.8') depth in G86.6.

Columbia-Kootenay

The Columbia and Kootenay claims were located in 1890. Considerable work has disclosed a mineralized zone with NE-SW trend which dips 45-750W. Despite large dumps, past production from 1896-1904 is only recorded as 144 tons containing 68,500 grams of gold. About 9750° of development was completed prior to 1898 and an estimated 15000 tons were produced from 4000 m (12000 feet) of development work; a total of 12805 tons averaged 0.38 oz/t Au. In 1940 reserves were estimated at 10000 tons of 0.15 oz/t Au.

The ore zone is reported to follow a contact between a biotite monzonite HW and an augite porphyry FW, partly replaced by ore. On surface the vein is heavily oxidized and both massive and disseminated pyrrhotite occur in a hard fine-grained gangue with minor chalcopyrite. Arsenopyrite is present locally. Vein width is reported from a few cm to thirty feet of nearly solid pyrrhotite with persistence of ore shoots dependent almost entirely on geologic structure. Despite the heavy sulphide mineralization, gold values are generally low.

While little geologic information is available, the claims were definitely considered part of the Central Belt and Haggen (1938, p. 10) at least appeared to think they were the extension of the Le Roi-Centre Star system (by way of the Georgia).

Extensive workings and dumps remain from the top of Columbia-Kootenay Mountain down to the level of the lowermost most and most easterly road shown in Figure 4. To try and assess best and average grades within this vein a total of 12 dump samples was collected in 1986. These are described in Table 2 and consist primarily of massive pyrrhotite with 1-5% stringers or clots of chalcopyrite, minor coarsely crystalline pyrite and occasional disseminations to clots of trace to 2% arsenopyrite. Rarely quartz gangue is present. Values ranged from 0.016 oz/t to 1.524 oz/t Au. One grab sample in outcrop from an approximate 40 m long open stope within the augite porphyry map unit yielded 0.138 oz/t Au; a chip 2 m sample across its end provided 0.276 oz/t Au. Overall best outcrop values on the claim are 1.780 oz/t Au for a 25 cm chip across a massive pyrrhotite vein (lacking chalcopyrite) In augite porphyry on the Columbia claim near the end of the road on top of Columbia Mountain. In all cases host lithologies appear complex with patchy bleaching and silicification and may be near the contact of the granodiorite map unit. Pyrrhotite averages 2-3% finely disseminated in the wallrocks; trace to 1-2% arsenopyrite is also Some outcrop in the area of the open stope suggests at least localized garnet-pyroxene skarn development.

Away from the old workings, a 1.3 mmassive arsenopyrite veinlet with lesser pyrrhotite and trace chalcopyrite, (along the NE contact of the conglomerate dyke described in 2.3.6) provided 0.146 oz/t Au (00951E). Veinmargins are sharp but the vein is surrounded by a zone of bleaching and finer veining in the country rock. Float samples of massive arsenopyrite and pyrrhotite with granular quartz collected nearby graded 1.120 oz/t Au (00980E) and 0.328 oz/t Au (00982E).

APPENDIX IV

Suumary From Report on the Rossland Property, by Neil D.S. Westoll & Associates Ltd., Aug. 18, 1987

APPENDIX IV

Summary from "Geological Report on the Rossland Property, B.C." for Antelope Resources Limited by Neil D.S. Westoll & Associates Ltd., Aug. 18, 1987

Antelope Resources Limited holds a group of 45 Crown granted mineral claims in the Rossland area of British Columbia. It has staked an additional 11 claims in this area. Available property and regional geological reports have been reviewed to assess the surface and depth potential of the Antelope claims to host economic gold mineralization similar to that mined in the Le Roi-Centre Star area of the Rossland Camp. The most promising property at this time appears to be the Bluebird-Homestake claim group on which three mineralized shear zones have been recognized.

26 10

The Le Roi-Centre Star gold-silver-copper deposits are located on the northwestern margin of the Rossland monzonite intrusion. The deposits are characterized by pyrrhotite-chalcopyrite replacements along east-vest shear structures developed in volcanics of the Rossland Formation close to the monzonite contact. Four properties collectively known as the Le Roi Hine and confined to an area 600 metres by 1200 metres produced approximately 6.2 million tons of ore to a depth of approximately 500 metres with a recovered grade of 0.47 oz/ton Au, 0.6 oz/ton Ag and 1% Cu between 1891 and 1941.

The Bluebird-Homestake claim group is located on the southern margin of the Rossland monzonite approximately 2.3 kilometres southeast of the Le Roi-Centre Star area. A number of geological features appear to be common to the two localities:

- 1. proximity to the Rossland monzonite contact;
- 2. volcanic host lithologies of the Rossland Formation;
- 3. high intensity of shearing and high frequency of occurrences;
- sulphide mineralization developed along east-west shear structures:
- north-south fault structures and dikes which localize mineralization:
- 6. gold-bearing chalcopyrite-pyrrhotite mineral assemblage.

Some of the mineralization on the Bluebird-Homestake claim group is characterized by an unusual mineral assemblage for the region. This assemblage, tetrahedrite-galena-aphalerite-boulangerite, could possibly represent a vertical zonation above a chalcopyritepyrrhotite system. The area of greatest surface potential at this time is that of gold-bearing chalcopyrite-pyrrhotite mineralization along the North shear zone from which drill intersections of up to 0.664 oz/ton Au and 0.91 oz/ton Ag over 2.0 metres have been obtained. The mineralization is traceable for at least 200 metres and the structure is traceable for at least 400 metres.

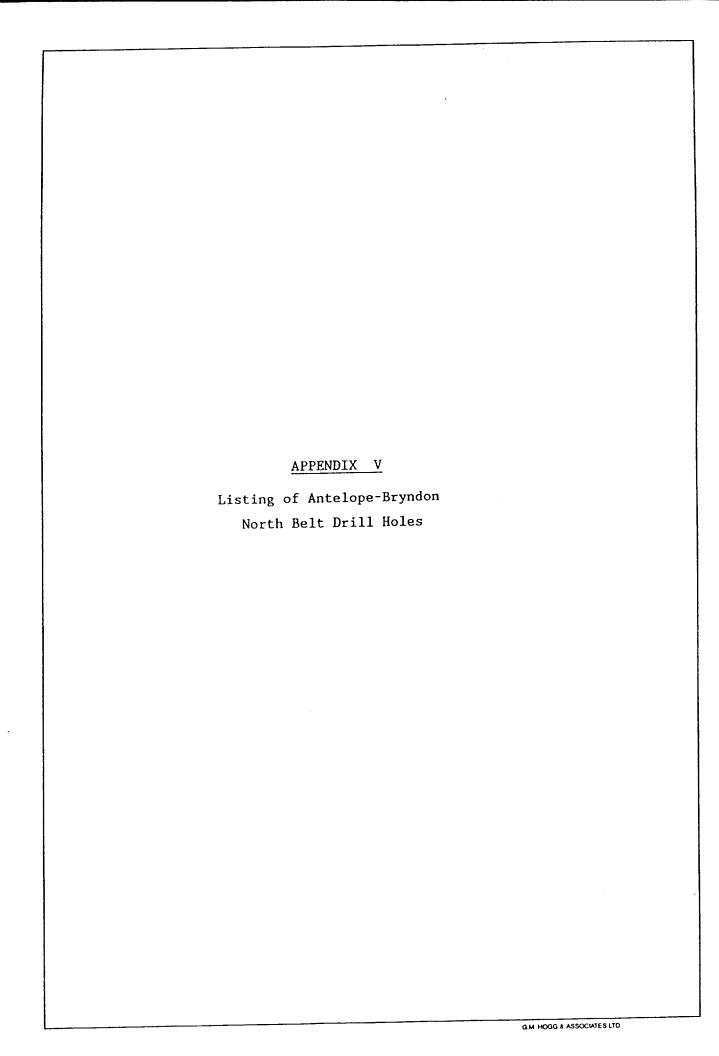
A second area warranting further work is the vicinity of the Copher adit where a sample from a new trench returned 0.30 oz/ton Au and 0.36 oz/ton Ag over 1 metre. This mineralization is located along the Homestake-Gopher shear zone. Limited exploration has been carried out along this portion of the structure, and potential exists on strike and to depth.

Previous workers have calculated probable and possible reserves on the Bluebird deposit of 28,150 tons grading 0.07 oz/ton Au, 13.0 oz/ton Ag, 2.9% Pb and 4.3% Zn. The Mayflower deposit, located on the same structure, has similarly calculated reserves of 18,000 tons grading 0.13 oz/ton Au, 3.7 oz/ton Ag, 1.5% Pb and 3.4% Zn. These deposits have been explored to a depth of only 200 to 360 feet (60-110 m). The depth potential of these zones is considered good particularly if the Au:Ag ratio increases with depth as part of a zoned system.

In the opinion of Westoll & Associates, good exploration potential exists on the property and further work is varranted. A two-phase exploration programme totalling \$540,000 is recommended as follows:

Phase I \$160,000 Phase II \$380,000

The Phase I programme is designed principally to follow-up the drill intersections on the North shear structure and to delineate additional drill targets on the Bluebird-Homestake claim group utilizing VLF-EH, magnetics and I.P. The Phase II programme is contingent upon the results of Phase I and consists of additional I.P., trenching and diamond drilling on new and existing targets as well as the extension of geophysical coverage to other portions of the land package.



APPENDIX V

Listing of Antelope-Bryndon North Belt Drill Holes

Hole No.	Mineralized Zone (ft.)	Width (ft.)	Au oz./ton
27	178.5-179.2	0.7	0.16
28 -	64.0-69.6	5.6	0.25
	90.6-92.5	1.9	0.64
	161.4-162.4	1.0	0.19
29	16.7-19.6	2.9	0.13
30	Overshot Zone	-	-
31	78.4-95.1	16.7	0.56
32 -	193.9-199.5	5.6	0.02
	561.4-594.8	33.4	0.06/5.6'
35	102.3-107.8	5.5	0.63
37 -	122.4-136.9	14.5	1.04
	204.4-207.7	3.3	0.20
39	180.1-193.9	13.8	0.02
41	132.2-145.0	12.8	0.30
43	-	-	
45	28.1-44.0	15.9	0.29
47	82.0-100.7	18.7	0.89/1.2'
49 -	125.3-127.8	2.5	0.10
	167.2-169.1	1.9	0.13
52	49.5-67.5	18.0	0.03
53	94.2-110.6	16.4	0.25
54	-	-	-
55	-	-	-
60	44.6-100.4	55.8	0.02
61	131.6-132.2	0.6	0.15
63	208.7-214.9	6.2	0.05
64	225.0-245,0	20.0	NA
65	138.0-146.0	8.0	NA
66	66.0-86.0	20.0	NA
71	385.8-391.7	5.9	0.40
78	138.1-170.8	32.7	NA
79	213.3-232.9	19.6	NA
80	278.9-305.1	26.2	NA
81	-		-
82	165.0-185.0	20.0	NA
56	71.9-72.5	0.6	0.138 (South Zone)
50,51,57,	-	-	- "
58,59			
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