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A REPORT ON THE DONNA PROPERTY

KEEFER LAKE, LUMBY AREA, B.C.

VERNON MINING DIVISION

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by

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SUMMARY

The Donna property, consisting of seventeen 2-post claims, is located on Southern British Columbia approximately 63 km east of Vernon. Locally, it is situated on the eastern end of Monashee Mountain 3 km west north west of Keefer Lake. It is readily accessible from a provincial highway by a logging road and a short 4-wheel drive road.

The general claims area has a long, intermittent history of gold placer mining dating from the 1870's to the present. Small quantities of gold were produced from a number of creeks. Base and precious metal occurrences are also know in the area.

The original Dona claims were staked in 1973 by El Paso Mining and Milling Company to cover a goldarsenic geochemical anomaly discovered during a regional stream sediment-prospecting program. Subsequent work on the claims during 1973-74 defined an area approximately 700 metres by 215 metres strongly anomalous in gold, silver and arsenic and moderately anomalous in lead. This large anomaly was tested by thirteen backhoe trenches totalling 1915 metres, detailed channel sampling and nineteen percussion drill holes totalling 980 metres.

Between 1982-88 the claims were intermittently explored by Keefer Resources Inc. Approximately 275 metre of new trenches were dug and sampled, and several outlying areas were soil sampled.

The property is underlain by argillaceous sediments, and esitic tuffs, and porphyry flows of the Carboniferous to Permian Thompson Assemblage (formerly Cache Creek Group) intruded by a dioritic sill.(?) This sequence is overlain to the north by Mesozioc sediments and volcano sedimentary rocks and intruded, to the south, by Cretaceous granodiorites.

Trenching exposed numerous zones containing narrow quartz veins and/or silicified zones related to dioritic units-intrusive or extrusive (?). These zones carry low by significant values in gold, commonly in the range of 0.02 to 0.10 oz/ton Au, but with local areas assaying much higher, ie. 2.29 metres in trench 4 assayed 0.86 oz/ton Au and 2.61 oz/ton Ag.

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Percussion drilling intersected a number of narrow mineralized zones 0.60 to 3.50 metres wide which commonly assayed in the range of 0.02 to 0.06 oz/ton Au. These values, in some cases, were much lower than trench samples from the same zones, suggesting that percussion drilling was not a suitable method for sampling this low grade property. Drilling confirmed the stockwork-like nature of the mineralization and its presence over a vertical range of at least 100 metres.

It was concluded that the property is underlain by geology favourable for hosting gold mineralization and that significant gold was present in stockwork-like structures. It was also concluded that additional exploration was both warranted and recommended.

It was recommended that a Stage I reverse circulation drill program estimated to cost \$137,000 be conducted to test the main areas of mineralization located in the trenches. Contingent on the results of Stage I, a second stage of work consisting of additional drilling and/or trenching should be conducted. Approximately \$250,000 should be allowed for Stage II.

INTRODUCTION

The Donna property contains a gold prospect which from previous exploration was indicated to have the potential for hosting a moderate sized low grade gold deposit. The following report summarizes the exploration results to date on the property and recommends a program for additional work.

The writer is familiar with the property having conducted or supervised the exploration on it by El Paso Mining and Milling Company during 1973-74 when the ground was owned by the company as the Dona claims. The writer re-staked the ground as the Donna claims in 1991 and is currently a co-owner of the property.

Location and Access

50° 08' north latitude) to approximate centre of the 118° 24' west longitude) claims

The Donna claims are located in the Vernon Mining Division of southern British Columbia approximately 63 km east-southeast of Vernon. Locally, they are situated near the headwaters of the Kettle River, on Monashee Mountain, 3 km west-northwest of Keefer Lake and 2 km southeast of Yeoward Mountain. (Figure 1)

The property is readily accessible from B.C. Highway No. 6 at a point approximately 85 road km east of Vernon. Here, the Keefer Lake Forest Access Road originates and is followed northeasterly for 9 km to a bridge. Immediately north of the bridge a 4-wheel drive road branches off and leads one km into the claims.

Proposed logging roads are flagged in the eastern part of the property. When these are built, most of the claims area will be within a short walking distance of roads.



Topography and Vegetation

The claims lie on the eastern end of Monashee Mountain which is characterized by relatively steep slopes leading up to a rounded, somewhat flat ridge top. Elevations range from approximately 1340 m to 1650 m. The central part of the property is located within an old burn, which is now covered by thick brush and locally very thick second growth fir. Elsewhere, commercial sized fir, hemlock, pine and spruce are common. The area is one of active logging.

Property 199

The property consists of 17 two-post claims. (Figure 2) They are:

<u>Claim Name</u>	<u>No. of Units</u>	Record Nos.	Expiry Date
Donna 1-11	one each	302501-511	July 28,1992
Donna 12-17	one each	304985-990	Sept.29,1992

The Donna claims are a re-location of the original Dona claims. The new claims were laid out to closely approximate the location of the original Dona claims.

The claims are owned by Harold M. Jones, 605-602 West Hastings Street, Vancouver, B.C.(90%) and W.D.Yorke-Hardy, 555 Rutland Road South, Kelowna, B.C.(10%).

History

The general area east of Vernon has a placer mining history dating from the 1870's to the present. Limited production came from a number of streams. In proximity to the Donna claims gold was obtained from Cherry and Monashee Creeks, 14 km and 7 km respectively to the northwest; Barnes Creek 10 km to the southeast and Marsh creek 5 km to the southwest.

Veins mineralized with pyrite, chalcopyrite, galena, and sphalerite with significant values in gold and silver were explored on the St.Paul Group, located on Monashee Mountain 5 km to the west of the Donna property. Intermittent mining from this property produced a small tonnage of both direct shipping and milling

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ores. The last production was in the mid 1970's.

Mineralization on the Donna (formerly Dona) property was located as a result of a district prospecting stream sediment sampling program conducted in 1973 by El Paso Mining and Milling Company in a part of the Monashee Mountain Range. A sediment sample taken from one tributary stream in the upper Kettle River area returned anomalous values in gold and arsenic. Follow-up prospecting confirmed the stream anomaly as well as locating quartz float containing coarse pyrite and arsenopyrite, assays from which assayed in the range of 0.50 oz/ton Au and 180-200 oz/ton Ag. Reconnaissance soil lines run at this time returned a number of samples anomalous in Au, Ag, As, and Pb. As a result of the encouraging results the original Dona claims were staked and a soil sampling survey conducted. The results from this survey defined a large area anomalous in Au,Ag, As, and Pb.

In 1974 a backhoe trenching program accompanied by geological mapping and rock sampling was conducted to test the anomalous area. It was followed by airtrack-type percussion drilling which intersected a number of gold-bearing zones. In 1975 El Paso ceased exploring in British Columbia and transferred the claims to their former geologists.

In 1980 the property was optioned to Salamet Resources Corp., who later transferred them to Granex Resources Ltd. who in turn transferred them to Keefer Resources Ltd. The latter company conducted intermittent exploration between 1982 - 1988 which included trenching, trench sampling and soil surveys, the latter in previously untested areas. The trenches in the northern part of the property confirmed favourable geology lay between the northern most El Paso trenches. The soil surveys did not locate other areas of interest. Trenching in 1984 was financed by Mohawk Oil Ltd.

GEOLOGY

Regional Geology

The Monashee Mountain area is underlain by a NW-SE belt of Paleozioc sedimentary and volcanic rocks overlain to the north by Triassic sediments and volcanics, and intruded to the south by plutonic rocks of Jurassic age. (Figure 3)

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The oldest rock unit in the area is the Carboniferous to Permian Thompson Assemblage (formerly Cache Creek Group). It includes argillaceous sediments, volcaniclastic rocks and limestone pods, the individual members of which are interdigitated on a relatively fine scale. The sequence is believed to have undergone sub-greenschist facies metamorphism coeval with Jurassic-Cretaceous orogenic events, though some deformation may have preceded deposition of the Upper Triassic sediments.

The Thompson Assemblage rocks are unconformably overlain to the north by a sedimentary formation belonging to the Slocan Group, as well as volcano-sedimentary rocks belonging to the Nicola Group. Metamorphism of these rocks is relatively low grade and, like in the assemblage to the south, is believed to be related to Mesozoic orogenic events.

To the south, the Thompson Assemblage has been intruded by plutonic rocks belonging to the late Jurassic Valhalla Complex. These are predominantly massive granodiorites but their composition varies widely.

Locally, Tertiary plateau basalts overly the above rocks.

Property Geology

Outcrop is sparse on the property, consequently most of the geological information was obtained from the trenches. The initial mapping by El Paso indicated that the property was underlain by northwest trending, interbedded, limy argillites and tuffs which were intruded by a sill-like dioritic unit. Due to variations in the diorite - colour, grain size, texture and alteration - it was difficult in the field, in places, to distinguish it from some of the volcanic (crystal tuff) units. Detailed work by Smith (1986) identified quartz latite to dacite flows within the interbedded calcareous sediments and tuffs, confirming that the dioritic body, in places, was actually flows which formed a part of a complex unit of flows, pyroclastics, and dioritic intrusives.

Bedding attitudes are variable. In the southern trenches the strike varies from N10° - 60° W and dips 30° E -30° W, averaging about N 30° W, dipping 15° W - 20° W. In the northern trenches the attitudes are similar, trending N 30° E to N 20° W and dipping at low angles to both east and west.

All rocks in the district are partly skarned with actinolite and clinozoisite the commonest alteration minerals

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in the sediments and limy tuffs. The alteration does not appear to be caused solely by the flows as these limy rocks are in themselves altered with epidote, clinozoisite, and some muscovite both above and below the latites (Smith 1986).

Numerous quartz veins are present within the flows and dioritic units. All veins are composed of massive white quartz, completely shattered and bordered by hematite margins. These are commonly 2 mm to 75 mm wide with a few 15 cm to 30 cm wide. In trench 1A, a vein up to 90cm wide was exposed. In the case of narrow veins, they commonly have a 2 to 4 cm wide hematite envelope.

Smith (1986) noted that "the sediments immediately below each flow (ie. the original top of each) tend to be a rubble of tuffaceous material rich in lime with varying amounts of sulphides and quartz. The sulphides occur both as finely disseminated grains and in pods or masses parallel to the bedding. The sulphide pods consist of arsenopyrite with minor galena and pyrite with rare sphalerite and chalcopyrite".

Whether the mineralized zones are veins forming a stockwork or siliceous alteration zones related to flows is not clear. However, the end product is distinctive hematite-rich, stacked, stockwork-like zones within the intrusive/extrusive units.

The veins (or silicified zones) are randomly oriented but the majority strike between N 20° E and N 45° W and dip 20° - 45° west or southwest. A small number of veins have a very low dip angle. Many veins appear to be following bedding (or shearing parallel to bedding) but some are related to cross-cutting fractures or faults. The veins are very irregular in width and vary along strike from hairline fractures to commonly 6 cm, then horsetailing out into hairline fractures again. They often show offsets of 6 cm to 60 cm on crosscutting structures.

GEOCHEMISTRY

Following staking of the claims in 1973 by El Paso they conducted a geochemical survey over most of the original Dona 1-8 claims with the ends of the lines covering parts of Dona 9-11 as well.

In the main area of interest line spacing was at 200 ft or 100 ft (60 m or 30 m) with samples taken at 100

ft or 50 ft (30 m or 15 m) intervals. Beyond this area some lines were at 400 ft (120 m) spacings with samples taken at 100 ft (30 m) intervals.

The survey was successful in locating a large area anomalous in Au, Ag, As, and Pb. Pb and Ag anomalies were approximately 365 m and 520 m long respectively, while Au and As ones were 670m and 850 m long. All anomalies were roughly elongate with the widest part up to 200-215 m wide. Each had smaller satellite anomalies on trend to the northwest and southeast of the main anomaly, being terminated only by the end of the grid.

The southeast end of the anomalous area is over increasing depth of overburden. The geochemical response to any underlying mineralization in this area would be weak to absent.

Au, Ag, and As anomalies were very strong. The Au anomaly was defined by those values >0.09 ppm Au (most values were >0.20 ppm Au or higher) with highs of 3.2-4.2 ppm Au; As by those values >350 ppm As, with highs of 1500-2300 ppm As; and Ag by those values >2.6 ppm Ag, with highs of 5.6-6.2 ppm Ag. Pb values were weaker with those values >52 ppm Pb being considered anomalous. Pb highs were 385-770 ppm Pb.

Background values were low for all elements except silver, which was unusually high at 1.5 ppm Ag. Figure 4 is a composite map showing the geochemical anomalous zone correlated with the surface geology and workings. The contours shown are for 0.04 ppm Au and 150 ppm As. These values clearly define the zone of interest and encompass all of the highly anomalous assays. El Paso's trenching program partially tested this large anomalous zone.

In 1973 the writer collected several soil samples from the sites of some of the highest gold assays, then panned them. Each contained appreciable fine free gold, indicating that some relatively coarse gold was present. Some of this coarse gold may not have shown in the assayed portion of the soil samples since only the -80 mesh fraction was assayed.

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MINERALIZATION

There are very sparse surface indications of mineralization on the property. Very few widely scattered, small outcrops of quartz and sparse quartz float were located during the original field work. When the geochemical anomalies were trenched, it was noted that the underlying soil and rock, in the mineralized areas, were red-brown due to abundant hematite alteration. Sections of the trenches devoid or very low in hematite were characteristically unmineralized.

A number of mineralized zones were noted in the trenching programs, which consisted of El Paso's thirteen and Keefer's three trenches. Each operator made several deep cuts (4 metres) in the floor of trenches in the most interesting mineralized zones.

As mentioned under "Geology" the mineralization consists of arsenopyrite, pyrite, and much less galena, sphalerite and chalcopyrite occurring in quartz veins or siliceous zones. Mineralization is weak and only rarely occurs as massive pods of arsenopyrite. A mineralized zone consists of a number of parallel veins or silicious zones concentrated within a restricted area. Smith (1986) identified "ten mineralized sheets in the El Paso sampling" and other new zones in the Keefer Resources trenching.

Most of the El Paso trenches were sidehill cuts in weathered to fresh bedrock. These exposed a number of narrow veins or silicified zones dipping at low angles to the west. The trenches were sampled by taking a series of vertical channel samples from the cutbanks at relatively close intervals. Some horizontal samples were also taken from the floor of some trenches in the more interesting areas. In total, El Paso collected 882 rock chip samples which were assayed for gold and silver.

Assays ranged from trace amounts to a high of 0.86 oz/ton gold and 2.61 oz/ton silver over 2.29m. Grab samples from some veins were higher. Gold values greater than 0.02 oz/ton gold occurred only where the rock weathers to a hematite red-brown colour.

Some of the more significant assays were obtained from El Paso trenches 1, 1A and 4. They were:

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DONNA MINERAL CLAIM GROUP

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Trench	Width(cm)	<u>oz/ton Au</u>	oz/ton Ag
1	76.2	0.34	0.75
1	38.1	0.34	0.41
1	140.0	0.21	2.01
1	40.6	0.17	0.31
1A	91.4	0.16	4.12
1A	70.0	0.14	1.13
1A	91.4	0.11	3.63
4	229.0	0.86	2.61
4	30.5	0.87	3.40
4	198.0	0.30	0.78

Keefer Resources Ltd., between 1982-84 conducted additional trenching, resulting in the exposing of other mineralized zones. They also re-opened several El Paso trenches but could not duplicate the latter's assay results.

PERCUSSION DRILLING

Nineteen airtrack-type rotary percussion holes, totalling 980 metres, were drilled in 1974. They were drilled along trenches 1 and 4 in two fences approximately 225 metres apart. The holes were drilled on each line at 15 metre centres. They were planned to be drilled dry to a depth of 61 metres but approximately half were stopped short due to moisture in the hole. All holes were sampled in 2-foot (0.61 m) intervals and fire assayed for gold and silver.

A number of drill sections assayed in the range 0.02 to 0.06 oz/ton Au which could be correlated between holes into west dipping zones. While most assays were low, some of the higher values were, over 60 cm lengths:

<u>Hole No.</u>	<u>oz/ton Au</u>	<u>oz/ton Ag</u>
P6	1.02	0.40
P10	0.03	5.03
P11	0.15	1.78
P16	0.26	0.44

The drilling results were discouraging in that the more interesting trench assays were not repeated in the

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drill hole assays. An example of this was hole P14 in trench 4. A number of very significant assays were obtained from this trench in the section between holes P14 and P15 (see fig.4). This mineralized zone was expected to be reflected in Hole P14 as well mineralized intersections but instead only had a number of samples assaying 0.02 to 0.05 oz/ton Au.

It was concluded that airtrack-type drilling was not suitable for sampling the low grade mineralization discovered on the Dona claims and that any future sampling should be by diamond drilling.

GEOPHYSICS

The VLF-EM and Self Potential surveys did not aid in defining the mineralized zones. There was sufficient sulphides and graphite present to cause numerous anomalies or conductors which did not aid in defining the zone of interest.

DISCUSSION

Exploration to date on the property demonstrated that significant gold is present within a stockwork of veins and/or silicified zones related to dioritic intrusives and/or porphyritic extrusive flows within the rocks of the Thompson Assemblage. The vertical range of the mineralization is, from the highest to lowest trench, at least 100 metres. The lowest trench, trench 1A, was well mineralized, suggesting favourable geology and mineralization persist below this level beneath the overburden-covered terrain.

The strike length of the mineralized zone is not defined. The soil anomalies appear to terminate to the northwest but this is also the end of sampling. To the south, the geochemical response drops off. This corresponds to the end of the grid as well as to the deepening of the overburden. Based on trenching, the mineralized zone is at least 470 metres long but geochemistry suggests it may be longer.

Percussion drill results did not confirm significant values down dip from known exposures. It was concluded, after the drill results were in; that this type of drilling was not suitable for this property.(It was used at the time due to budget limitations).

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It is important to note that work on the original Dona claims was terminated following the 1974 program when the decision was made to dissolve the El Paso syndicate, not because of exploration results on the property at this time. This move was precipitated by the election of the NDP government in British Columbia. One of the partners refused to conduct business in the province while the NDP were in power. El Paso, the operators, was prepared to continue work if a new partner could be found. During this period, no companies were interested in conducting new business in British Columbia. Since no partners could be found, the syndicate disbanded.

CONCLUSIONS

It is concluded from previous work on the Donna property that significant gold is present within a large area containing stockwork-like zones of veins and/or silicified units. It is further concluded that this geological setting has the potential for hosting a low grade bulk tonnage gold deposit. Additional work is both warranted and recommended.

RECOMMENDATIONS

It is recommended that a drill program be conducted on the property to test the significant gold mineralization located in trenches 1, 1A, and 4. Ideally, large diameter diamond drilling (HQ) would be used since it would produce a large amount of material for sampling as well as providing geological data. However, it is suspected that the broken nature of the veins would result in substantial core loss in the critical areas. If this were the case, grades determined from drilling may not be reliable. It is suggested that large diameter (4" - 6") reverse circulation drilling equipment be used since it should give a better and more complete return of the sample material. Contingent on the results of this drilling, additional drilling and possibly trenching should be conducted.

Cost Estimate

Stage 1 - Reverse Circulation Drilling

Drilling - appro:	\$9	0,000	
Geology, super	1	0,000	
Bulldozing - bu		5,000	
Samples and assays - allow			0,000
Room and board, geologist			2,000
Field supplies -		500	
Vehicle rental,	:	2,000	
Report, maps, secretarial, etc.			<u>5.000</u>
Sub to	12	4,500	
Contingencies - 10%			2 <u>,500</u>
Total	<u>\$13</u>	<u>7,000</u>	
<u>Stage 2</u> -	Contingent on Stage 1 Additional drilling - allow	<u>\$25</u>	<u>0,000</u>

Respectively submitted,

Harold M. Jones

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CERTIFICATE

I, Harold M. Jones, of the City of Vancouver, British Columbia, do hereby certify that:

- 1. I am a Consulting Geological Engineer with offices at 605-602 West Hastings Street, Vancouver, British Columbia.
- 2. I am a graduate of the University of British Columbia in Geological Engineering, 1956.
- 3. I have practised my profession as a Geological Engineer for over 30 years.
- 4. I am a member of the Association of Professional Engineers of British Columbia, Registration No. 4681.
- 5. I conducted and supervised the 1974 exploration program on the original Dona claims (now Donna) as an employees of the property owner, El Paso Mining and Milling Co. and compiled all of their data on the property. I have also reviewed the results of all work conducted between 1982-88 on the property by other operators.
- 6. I own 90% interest in the Donna 1-17 claims.

Dated at Vancouver, B.C. this 17th day of February, 1992.

Harold M. Jones, P. Eng.