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77-#437-# 6668

A

Report on The

Pilot Geochemical Survey

on the

Mount Nelson Property

Wells Area

Cariboo Mining Division

Province of British Columbia

for:

Golden Ark Industries

by

C.T. Pasieka, P.Eng.

November 1, 1977

Coordinates  $53^{\circ} 121^{\circ}$  SW

<p>MINERAL RESOURCES BRANCH ASSESSMENT REPORT <b>6668</b> NO. _____</p>
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## SUMMARY

During the period August 1 - 6 inclusive, a pilot geochemical survey was carried out over several traverses on the Mount Nelson Group of Claims in the Wells Area, Cariboo Mining Division, British Columbia. Some 288 samples were collected and analysed for copper-silver content by means of atomic absorption. The intent of the survey was to develop a technique whereby the sulphide bearing quartz veins could be located through overburden cover. Three discrete areas of anomolous silver-copper values were indicated dictating further investigation by means of bulldozer stripping and detailed geological mapping. Should the sub-surface investigations indicate that the anomolous silver-copper values in the overburden cover owe their origin to sulphide bearing quartz veins, the technique must be ruled valid for the area, and necessarily expanded.

## PROPERTY

The mining property under discussion and hereinafter referred to as the Mount Nelson Group consists of fourteen contiguous reverted crown granted claims. The above claims are now recorded as twelve mineral leases filed under certificates Nos. 69397 - 69408 inclusive in the Mining Records Office in Quesnel, B.C., Cariboo Mining Division, Province of British Columbia. The original crown granted claims defining the property are as follows:

1. Wonder (L-1674)
2. Wonder fraction (L-1679)
3. Garbo (L-1675)
4. Burns 14-16 incl. (L-8895 - 8897)
5. Chisholm 1-4 incl. (L-10428 - 10431)
6. Chisholm Fraction 7 (L-10434)
7. Garbo <sup>No. 1</sup> Fraction (L-1662)
8. Oslo Fraction (L-1676)
9. Gloria 2 (L-8899)

## LOCATION AND ACCESS

The Mount Nelson Group is located some 1½ miles NNE of the village of Van Winkle and 8 miles SW of Wells, B.C. Access to the property is readily available by means of the Barkerville Highway, a paved all weather road extending some 48 miles in a westerly direction to Quesnel, B.C. The Barkerville Highway traverses the eastern margin of the Mount Nelson Group. A pack trail from the confluence of Oregon and Chisholm creeks extends up the central portion of the property and would have the coordinates 53<sup>0</sup>

Location and Access cont'd...

121<sup>0</sup> SW. The property is within the limits of sheet M93h/4E.

#### TOPOGRAPHY AND VEGETATION

The surface presented by the property is that of an incised inclined plane sloping in a south easterly direction. Drainage is mainly to the south via Oregon Gulch and its tributaries. Canyons such as Oregon Gulch are generally steep walled with elevations varying from 4000' ASL to 5400' ASL, the higher ground to the northwest. In the main, vegetative cover and overburden is complete consisting of commercial fir, spruce and pine with usually dense underbrush, mainly alder. The overburden is light to moderate on the high ground with the low areas more loaded. The great majority of overburden consists of glacial detritus with a light cover of humus and vegetable matter. Water for exploration purposes is generally available from numerous freshets and creeks.

#### GEOLOGY

The Mount Nelson Group is underlain by Precambrian rocks locally represented by limestones, phyllites and quartzites. They are tentatively identified as members of the Richfield Formation of the Cariboo Series. Deformation of the series is locally complex and chemical alteration is usually accelerated when deformation is intense. A major fault is projected as extending through the property in a NNE direction as traced by

Geology cont'd...

Oregon Gulch. Sympathetic and normal to this lineation occur a series of joints and breaks, frequently quartz filled and are thought to be significant with regard to the source of the placer gold in the area.

#### MINERALIZATION

Placer gold in Oregon Gulch in varying amounts is a matter of record. The pay zones tend to be erratic in both distribution and size so that production in the past was rarely sustained for an extensive term.

Quartz veins either pure white with no visible gold values or iron stained with pyrite relics frequently occur especially at higher elevations. A specimen derived from the west margin of the property yielded 0.03 ozs/ton in gold. Other occurrences are reported of higher tenor and lend credence to the concept that these quartz veins are the source of the placer gold found at lower elevations to the south and east.

#### GEOCHEMICAL SURVEY

##### A. Method.

Percolating waters traversing overburden cover may carry dissolved metallic ions which may be adsorbed to the surface of particles of soil or may in fact be precipitated out of solution at or near ground surface. The above phenomena is the basis of geochemical surveying in

## Geochemical Survey cont'd...

that abnormally high metallic content in the overburden cover is assumed to be a reflection of a mineralized body occurring at or below bedrock surface.

Samples are extracted from a point at the base of the humous layer to minimize vegetative concentration, dried, seived to -80 mesh and thence treated with hot nitric acid. Upon digestion the samples are analysed for the appropriate minerals with the atomic absorption method. The results are catalogued and plotted in their appropriate geographical position in the form of profiles or contours.

In this case analyses were conducted for anomalous copper and silver values in that the copper would better reflect the sub-surface position of the pyritic sulphides. Silver is usually associated with gold in situ and due to its higher solubility would increase its amenability to detection-i.e. parts per million rather than detectibility limits of parts per billion for gold.

### B. Discussion of Results

The copper geochemical results showed a generally low background value of 12ppm. with isolated values of up to 5 times background. One would be hesitant to attribute any signifigance to these anomalies directly however their association with synchronous anomalous silver values tend to lend credence to the original concept that the indications of copper would indicate the presence of sub-surface sulphides.

The background silver values of the order of 0.1 ppm. tend to be more consistant than those indicated by the copper and show a much

## Discussion of Results cont'd...

greater spread between background and anomalous values, i.e. one hundred fold. Single value highs are usually held suspect in that they may owe their origin to the presence of mineralized erratics in the overburden. If the values may be correlated with similar values on adjacent lines or persist along the same line then the results are given added significance.

Three areas yielded results of sufficient merit to warrant subsurface investigation.

- A. A linear with a northwest strike is suggested along traverse B, 1400' west along the traverse. Values of 10 times background are indicated with correlating values on traverse A and with crudely synchronous copper values.
- B. The area centred about the point 2700' N along traverse Z gives silver values of 12 times background with supporting values on traverse Y and similarly along traverse Z. Supporting copper values are present.
- C. Silver values of up to 12 times background are offered at the commencement of traverse C with moderate copper support.

The above three areas have not been delineated due to insufficient work along their respective strike, however corroborating values along adjacent lines and along the same traverse would seem to indicate the anomalous values are not derived from a single point source. In view of the above, some validity for the areas outlined in part is offered.

## CONCLUSIONS AND RECOMMENDATIONS

The pilot geochemical survey indicated three areas of anomalous silver content with correlating elevated copper background. The intent

Conclusions and Recommendations cont'd...

of the geochemical survey was to attempt to locate the presence of pyrite and gold bearing quartz veins at or near bed rock surface. Gold bearing sulphides have been observed on the property and if the copper-silver anomalies are indicative of the presence of overburden covered quartz-sulphide veins then a valid technique for their discovery is available. In view of the above, it is recommended that the causative factors of the anomalous silver values in the overburden cover be further investigated by means of bulldozer stripping and detailed geological mapping. Should the subsurface investigations prove that the silver-copper anomalies owe their origin to gold bearing sulphides in quartz veins, then the following exploration efforts should be expanded along similar lines.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "L. L. Basika". The signature is written in dark ink and is positioned to the right of the typed name "L. L. Basika".



CERTIFICATION

I Clemens Terence Pasieka, of the City of Kamloops, Province of British Columbia, hereby certify that:

1. I am a geologist that reside at 138 Saint Paul St. Kamloops, B.C.
2. That I am a graduate of the University College, Dublin, Ireland, with a degree in Geology, B.Sc. 1963.
3. That I have been practicing my profession for fourteen years.
4. That I am a member of the Associations of Professional Engineers in the Provinces of Alberta, Saskatchewan, and British Columbia.
5. That I have no interest directly or indirectly in the property or the securities of Golden Ark Industries, nor do I expect to receive any such interests.
6. That this report is based on data derived from work carried out under my supervision of the property, from personal knowledge of the area, and from Government publications relevant to the area.

Dated this 1st day of November, 1977, City of Kamloops, Province of British Columbia.



PERSONNEL

C.T. Pasieka	Aug. 1,2, Oct.30,31, 1977	138 St. Paul Kamloops, B.C.
Jim Robertson	Aug. 1-6 incl. line cutter sampler \$75/day	Vernon, B.C.
W.J. Babiak	Aug. 1-6 incl. line cutter sampler \$75/day	Calgary, Alta.

I hereby certify that the following costs were incurred by, invoiced to and paid for by Golden Ark Industries related to the Mount Nelson Group, Wells Area, Cariboo Mining Division, British Columbia:

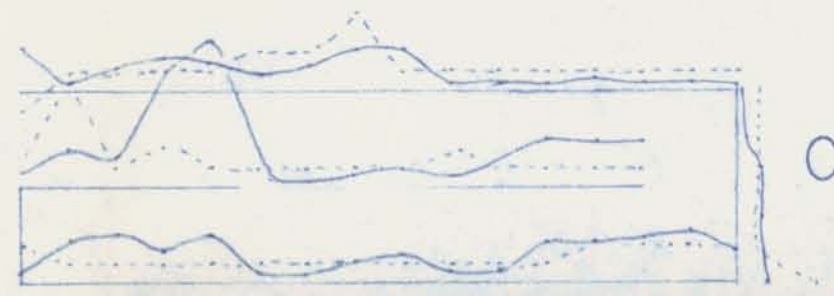
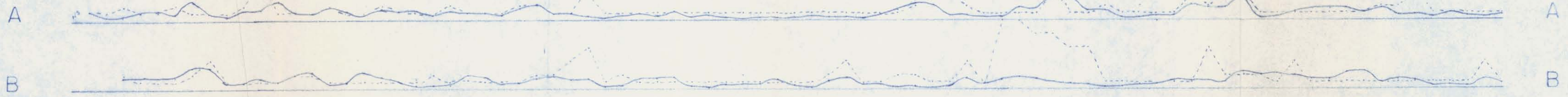
Consulting and Report. (C.T. Pasieka)	\$ 600.00
Sample analysis 288 samples @\$2.45 (Chemex)	705.60
Labour..12 man days @ \$75.00	900.00
Accomodation & board, 12 man days \$25.00	300.00
Truck rental, \$25/day plus mileage	300.00
	<hr/>
	\$2,805.60

This 1st day of November, 1977, in Kamloops, B.C.





NE Cor Lot No 1675



1998



GOLDEN ARK INDUSTRIES LTD  
GEOCHEMICAL PROFILES Ag Cu  
MOUNT NELSON GROUP  
WELLS AREA  
CARIBOO MINING DIVISION  
BRITISH COLUMBIA

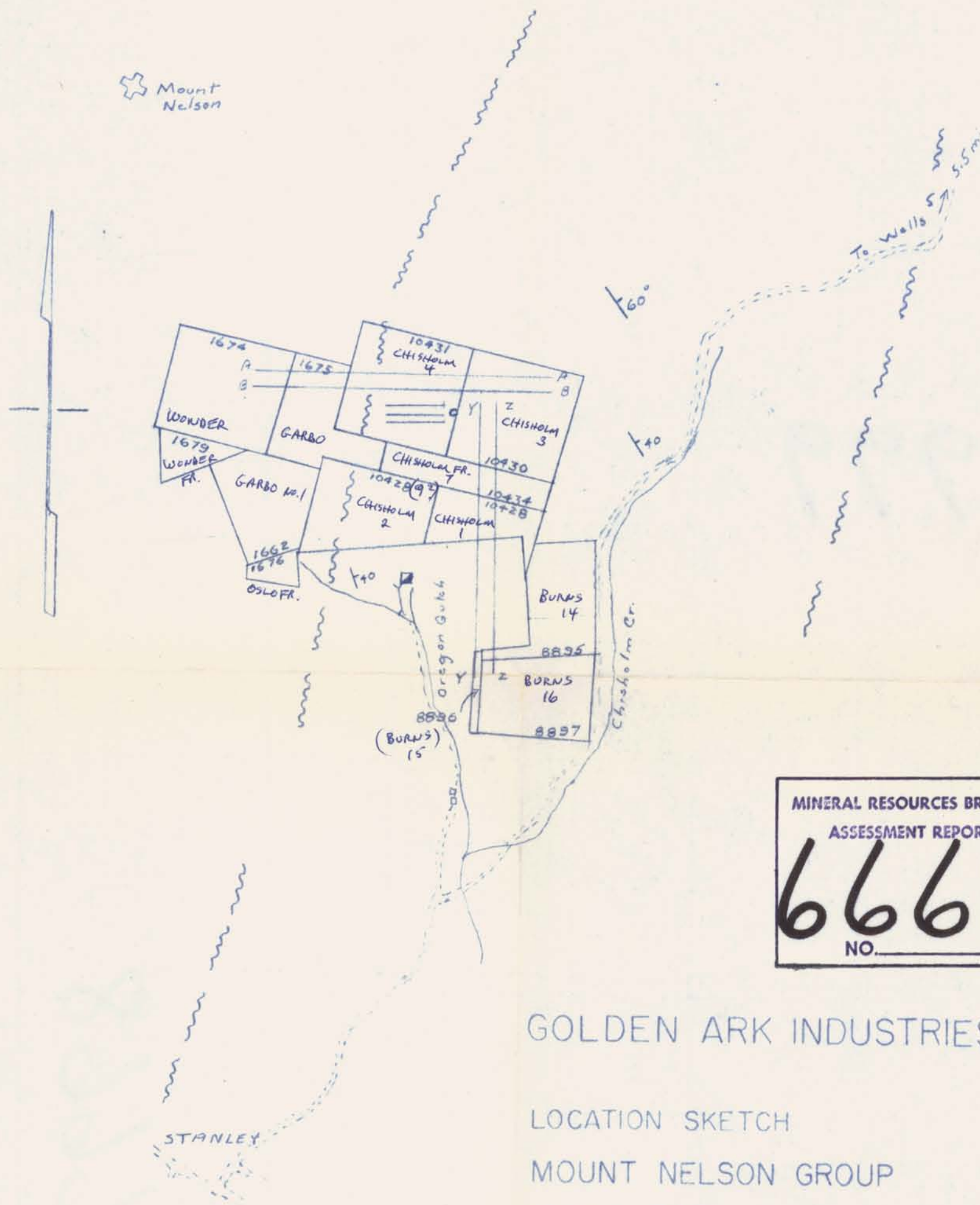
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NO

Scale 1" = 200' = 60m (hor)  
1" = 100 ppm Cu = 1 ppm Ag  
Cu ———  
Ag - - - -

To accompany report by CT Pasieka PEng



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NO.

GOLDEN ARK INDUSTRIES

LOCATION SKETCH

MOUNT NELSON GROUP

WELLS AREA

CARIBOO MINING DIVISION

Scale 1" = 1500'

Derived from sheet 93 H/4E WELLS

To accompany report by C T Pasieka P Eng

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