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## SOIL AND ROCK GEOCHEMICAL

REPORT ON THE LUCKY AND
LUCKY 2 CLAIMS, JURA AREA
SIMILKAMEEN M. D.
BRITISH COLUMBIA

Operator: MINGOLD RESOURCES INC. 900A - 837 W . hastings st. VANCOUVER, B. C.
Owner (s): Mingold Resources Inc. GEOLOGICALBRANCH ASSESSMENTREPORT


NTS: 92H9/W
BY: K. J. TAYLOR
Lat: $49^{\circ} 32^{\prime} 38^{\prime} 4 Z^{\prime \prime}$
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PAGE
INTRODUCTION ..... 1
LOCATION and ACCESS ..... 1
CLAIMS ..... 1
GEOLOGY \& MINERALIZATION ..... 2
GEOCHEMICAL SURVEYS ..... 2
Sampling and Analytical Procedures ..... 2
Geochemical Results ..... 3
CONCLUSIONS and RECOMMENDATIONS ..... 4
APPENDIXES
APPENDIX 1 SOIL and ROCK GEOCHEMICAL ASSAY CERTIFICATES
APPENDIX 11 a
APPENDIX 11 b
APPENDIX 111
STATEMENT OF EXPENDITURES - LUCKY CLAIM
STATEMENT OF EXPENDITURES - LUCKY 2 CLAIM
STATEMENT OF QUALIFICATIONS: K. J. TAYLOR
LIST OF FIGURES

1. LOCATION MAP ..... 2 a
2. CLAIM MAP ..... 2 b
3. GEOCHEMISTRY
4. ROCK SAMPLING MAPPlate 3 in FolderPlate 4 in Folder
Plate 5 in Folder

## INTRODUCTION

The Lucky claims were obtained under an option agreement between Mr. Peter Peto of Penticton, B. C. and Mingold Resources Inc.. These claims cover an area previously explored by Kenneco Exploration and Quintana Minerals for its porphyry copper potential. Mingold's interest in the ground was spurred by the presence of anomalous accessory gold values up to 420 ppb . Systematic rock and soil geochemical surveys were carried out by Mingold personnel from June 14-18, 20 and 23, 1987. Details and results of these surveys are elaborated on in the following report.

## LOCATION \& ACCESS

The property straddles the Princeton-Summerland Highway near the Jura railway siding approximately 18 kilometers by road from Princeton. Hayes Creek lies along the eastern boundary of the claims and Christian Creek along the northern boundary. Topography slopes moderate to steeply to the east into the Hayes Creek Valley. Most of the area is devoid of trees, consisting of grassy rangeland.

CLAIMS
The Lucky and Lucky 2 claims cover a 12 unit block staked under the modified grid system. The Lucky claims were staked by Mr. Peter Peto of Penticton, B. C. while the surrounding Lucky 2 claims were staked by Mingold Resouces Inc.

| Claim Name | No. of Units | Date of Record | Record No. | Expiry Date |
| :---: | :---: | :---: | :---: | :---: |
| Lucky | 4 | August 20,1985 | 2435 | August 20,1987 |
| Lucky 2 | 12 | April 29,1987 | 2896 | April 29,1988 |

MINGOLD RESOURCES INC. vancouver office



## GEOLOGY \& MINERALIZATION

The claims are underlain by altered dacites and andesites of the Upper Triassic Nicola Group. These rocks are intruded by the Middie Jurassic Osprey Lake Granodiorite which lies to the north and east of the property. The general trend of the rocks appears to be northwesterly, however, a combination of strong alteration (silicification, sericitization and pyritization) and shearing often masks any primary structures. A large part of the area is covered by a mantle of glacial and alluvial debris with outcrop essentially confined to roadcuts, trenches and creek gullies.

Mineralization consists of scattered chalcopyrite and minor bornite as disseminations and hairline fracture fillings. Weak pyrite is ubiguitous with greater concentrations (up to $20 \%$ ) occurring in areas of more intense hydrothermal alteration. Anomalous gold values (up to 460 ppb in rock) occur in association with the better copper mineralization.

## GEOCHEMICAL SURVEYS

A systematic soil and rock sampling program was carried out over most of the Lucky claim and a portion of the Lucky 2 claim. Heavy overburden along the Hayes Creek Valley prevented the use of soil geochemistry over the eastern part of the Lucky 2 claim.

Soil sampling utilized a hipchain and compass grid which was put in concurrently with the sampling. A total of 233 samples ( 78 on Lucky 2,

155 on Lucky) were taken on grid lines spaced 100 meters apart with samples taken every 25 meters along them. Samples were collected at 15-25 cm depths, placed in gussetted Kraft envelopes and shipped to Acme Analytical Laboratories in Vancouver for analysis. Analysis was by ICP for a 30 element package. This technique uses a 0.5 gram sample which is digested with 3 ml . of $3-1-2 \mathrm{HCL}-\mathrm{HNO}_{3}-\mathrm{H}_{2} \mathrm{O}$ at $95^{\circ} \mathrm{C}$ for one hour. This is then diluted to 10 ml . with water and analysed by an ICP unit. Gold analysis was done separately using a 20 gram sample which is ignited at $600^{\circ} \mathrm{C}$, digested with hot aqua regia and extracted by MIBK. This is then analysed using a graphite furnace AA unit. Mercury analysis uses the solution extracted during the ICP digestion. The aliquots of the extract are added to a stannous chloride-hydrochloric acid solution. The reduced mercury is swept out of the solution and passed into the mercury cell of a cold vapour AA using a $F$ \& $J$ scientific mercury assembly.

A total of 95 rock samples ( 1 on Lucky 2, 94 on Lucky) were taken of selected outcrops generally at 2 metre intervals over the length of the exposure. A continuous sample of rock chips were collected in poly bags which were tagged and sent to Acme Analytical in Vancouver. There the samples are crushed to $-{ }^{3} / 16^{\prime \prime}$ then pulverized to -100 mesh. Analytical technique is then the same as that described above for soils.

## dISCUSSION OF RESULTS

The geochemical results for gold and copper in soils are shown on

Plate No. 3 and No. 4. Anomalous levels of 25,50 and 100 ppm for gold and 250, 500 and 750 ppm for copper were chosen by inspection. An obvious strong correlation exists between gold and copper anomalies with three main zones of interest outlined. The flat response of the soils along the west side of the highway may be partially a function of thicker overburden. It is not known what effect glaciation may have had in the area. The soils were a consistent gray colour suggesting a high till content, however no striae or other glacial features were noted. The close association between the gold and copper anomalies suggests that transport distances by glacial or hydromorphic dispersion have not been significant.

The rock sampling results are shown on Plate No. 5. ' The highest gold value obtained in the rock sampling was $470 \mathrm{ppb}(0.014 \mathrm{oz} / \mathrm{t})$ which coincided with the second highest copper value ( 7409 ppm or $0.7 \%$ ). The highest copper value was $8215 \mathrm{ppm}(0.82 \%)$ which ran 460 ppb gold (. 014 $0 z / t)$. In other samples the higher gold values were almost invariably associated with high copper values but many high copper values had very low accessory gold. The level of pyrite in the rocks appeared to have no bearing on the gold content. There seems to be good correlation generally between the soils and rocks although in some instances the rocks showed weak gold values where the soils were at background levels.

## CONCLUSIONS \& RECOMMENDATIONS

The soil and rock sampling has been effective in targetting several areas of gold-copper mineralization. The rock sampling suggests that
the concentrations of these metals at surface is probably not of economic interest. It is not known however, what influence surface oxidation and leaching may have had on the mineralization.

It is recommended that further soil sampling be carried out to the east and south of the area surveyed to try to close off the gold and copper anomalies. The valley to the east may present some problems due to excessive overburden. Reverse circulation drilling is also recommended on the known anomalies to determine if grades are improving with depth.


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APPENDIX II a
STATEMENT OF EXPENDITURES - LUCKY CLAIM
Personnel: Ken Taylor, Proj. Supervisor John Nicholson, Geologist \$ 150.00/day ..... 100.00/day
Dates: June 14 (1/2 day) - established baseline June 16-18 - soil sampled lines west of baseline and rock sampled roadcuts.
June 20 (1 man) - rock sampled old trenches June 23 - soil sampled lines east of baseline
Total Samples: 155 soil samples (13 no samples) 94 rock samples
Cost Breakdown:
$41 / 2$ man days at $\$ 100.00 /$ day ..... 450.00
$51 / 2$ man days at $\$ 150.00 /$ day ..... 825.00
5 days truck rental at $\$ 65.00 /$ day (incl. fuel) ..... 325.00
5 nights accommodation at $\$ 38.88 / n i g h t$ ..... 194.40
10 man days of meals at $\$ 25.00 /$ man day ..... 250.00
Supplies (flagging, thread, bags etc.) ..... 120.00
155 analysis of soils at 11.75/sample ..... 1821.25
94 analysis of rocks at $14.00 /$ sample ..... 1316.00
Report (1 day at \$150.00/day) ..... 150.00
Drafting ( 6 hrs at $\$ 15.00 / \mathrm{hr}$ ) ..... 90.00

## APPENDIX $\overline{11} \mathrm{~b}$

## STATEMENT OF EXPENDITURES - LUCKY 2 CLAIM

| Personnel: | Ken Taylor, Proj. Supervisor | \$ 150.00/day |
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|  | John Nicholson, Geologist | 100.00/day |
| Dates: | June 14 ( $1 / 2$ day) - established baseline |  |
|  | $\begin{array}{ll} \text { June } 15 & \begin{array}{l} \text { soil sampled lines west } \\ \text { of baseline } \end{array} \end{array}$ |  |
|  | $\begin{gathered} \text { June } 20 \text { (1 man) - sampled lines east of } \\ \text { baseline } \end{gathered}$ |  |
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Cost Breakdown:

| 2 1/2 man days at $\$ 100.00 /$ day | 250.00 |
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| $11 / 2$ may days at $\$ 150.00 /$ day | 225.00 |
| 2 days truck rental at $\$ 65.00 /$ day ( incl. fuel) | 130.00 |
| 2 nights accommodation at $\$ 38.88 /$ night | 77.76 |
| 4 man days of meals at $\$ 25.00 /$ man day | 100.00 |
| Supplies (flagging, thread, bags etc.) | 30.00 |
| 78 analysis of soils at $11.75 /$ sample | 976.50 |
| 1 analysis of rock at $14.00 /$ sample | 14.00 |
| Report (1/2 day at $\$ 150.00 /$ day) | 75.00 |
| Drafting (2 hrs. at $15.00 / \mathrm{hr}$ ) | 30.00 |

## STATEMENT OF QUALIFICATION

I, Kenneth James Taylor of Surrey, British Columbia do hereby certify that:

1. I am a geologist employed on a contract basis with Mingold Resources Inc. of 900A - 837 W. Hastings St., Vancouver, British Columbia.
2. I am a graduate from the University of British Columbia with a B.Sc. in Geology (1973).
3. I have been practising my profession for the past 14 years.
4. I am a Fellow in the Geological Association of Canada.
5. I supervised and coexecuted the work being applied for assessment on the Lucky and Lucky 2 claims in the Princeton area, British Columbia.



