GEOLOGICAL MAPPING AND SOIL GEOCHEMICAL SURVEY ON THE OK MINERAL GROUP

KEREMEOS AREA
Osoyoos Mining District, B.C.

LATITUDE: 49°02'N; LONGITUDE: 119°52'W

PERIOD OF WORK

July 28 to August 19, 1980

DECEMBER 11, 1980
T.W. Hodson
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Appendix A  Statement of Expenditures on OK Mineral Group
Appendix B  Affidavit
APPENDIX C  Statement of Qualifications

* * * * *
A geological mapping and soil geochemical survey was carried out on the OK claim group during 1980. This program concentrated its efforts on the southern portion of the claim group and was intended to locate and define all phases of the Similkameen batholith within the claim boundaries, locate molybdenite and tungsten showings, and locate any anomalous soil areas which may indicate mineralization at depth. A soil sampling grid was established and 377 soil samples plus two rock chip samples were collected. All soil samples were analysed for copper, lead, zinc, molybdenum and tungsten.

Results indicate no chemical enrichment in the soils for copper, lead, or zinc and only scattered high values in tungsten. Molybdenum enrichment in soils was found over a large portion of the soil grid and was found to be related to scattered molybdenite showings.

Further work is recommended to determine the significance of molybdenum within the anomalous zone.

The OK mineral group is situated along the United States-Canada boundary at the headwaters of Snehumption Creek south of Keremeos, B.C. The claims are accessible by helicopter, the nearest helicopter base being Penticton, which is 52 km to the NNE. Elevation ranges from 1600 to 2600 meters, with open forests at lower levels giving way to alpine meadows at high elevations.

Interest in the general area has been strong in recent years due to the occurrence of tungsten bearing skarns and numerous molybdenite and tungsten
showings.

Cominco first acquired the ground in December, 1979 and conducted a program of semi-detailed mapping and contour sampling during the 1979 field season.

**OWNERSHIP**

The OK mineral group consists of 15 claims comprising 118 units. Fourteen of these claims are 100% owned by Cominco Ltd. and one, the U.C. claim, has been optioned to Cominco by D. Brewer of Vernon, B.C.

<table>
<thead>
<tr>
<th>Claims</th>
<th>Units</th>
<th>Record Number</th>
<th>Recorded</th>
<th>Due Date</th>
</tr>
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<tr>
<td>OK 1-13</td>
<td>94</td>
<td>622(1) to 634(1)</td>
<td>Jan. 25, 1979</td>
<td>Jan. 25, 1982</td>
</tr>
<tr>
<td>OK 14</td>
<td>8</td>
<td>1229 (9)</td>
<td>Sept. 4, 1980</td>
<td>Sept. 4, 1981</td>
</tr>
<tr>
<td>U.C.</td>
<td>16</td>
<td>786 (7)</td>
<td>July 17, 1979</td>
<td>July 17, 1981</td>
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**GEOLOGY**

The Cretaceous Similkameen batholith, which is part of the Nelson Plutonic Rocks, occurs within the OK mineral group. It intrudes marine sediments and volcanics of the Independence, Barslow, Shoemaker, and Old Tom Formations. This intrusion predominantly consists of a porphyritic quartz monzonite with 3-5 cm k-spar phenocrysts set in a medium grained, grey matrix which is composed of quartz, k-spar, plagioclase, hornblende, biotite, and minor muscovite. This quartz monzonite is in gradational contact with a porphyritic quartz monzonite to monzonite which contains 4-6 cm k-spar phenocrysts set in a coarse grained, grey to dark grey matrix consisting of k-spar, plagioclase, abundant hornblende and biotite, and minor quartz. The quartz monzonite porphyry is typically found separating the medium grained quartz monzonite from the country rock. The contact between these two intrusive phases is gradational and ranges from as few as 20 meters to as much as 150 meters.

The country rock, exposed along the northwest section of the claim group, consists of metamorphosed ribbon cherts and amphibolite, with minor argillite, limestone, and tuffaceous rocks. Foliation within these rocks varies but generally is found to strike north to north-west and dip steeply eastward.

Mineralization found on the property consists mainly of series of molybdenite showings located on the OK 9,11,13,14, and UC claims. These showings contain minor molybdenite within quartz veins which cut the porphyritic quartz monzonite. Only one tungsten showing was found, located to the southwest of Snowy Mountain. All tungsten and molybdenite showings are located on Plate 3.
SOIL GEOCHEMISTRY AND ANALYTICAL PROCEDURE

The 1980 field work was conducted by T.W. Hodson, B.Sc. 1980, assisted by M. Seifert, K. MacDonald, and T. Wells.

A soil sample grid was established with an east-west base line having north-south crosslines every 200 or 400 meters. Samples were collected at 100 meter intervals along this soil grid. Only two rock samples were taken, both coming from trenches located on the U.C. claim.

Soil samples were dried and sieved to minus 80 mesh and weighed into 200 mg. portions. Copper, lead, zinc, and silver were determined by aqua regia digestion followed by atomic absorption. Molybdenite was determined by nitric-perchloric acid extraction followed by thiocyanate colourimetry with butyl acetate extraction. Tungsten was determined by potassium pyrosulphate fusion and HCl extraction followed by zinc dithiol colourimetry, gold by aqua regia digestion followed by organic solvent extraction and atomic absorption, and fluorine by specific ion electrode analysis. All samples were analysed at Cominco's Vancouver Research Laboratory.

RESULTS AND INTERPRETATION (Plates 4-8)

Sample locations and analytical results for molybdenum, tungsten, copper, lead, and zinc are presented in Plates 4-8 respectfully.

Molybdenum analyses range from <2 to 130 ppm with 10 ppm Mo considered to be the threshold for anomalous values. Results indicate a large plus 10 ppm Mo anomaly within the OK 11,13,14, and U.C. claims. This anomaly is associated with the many molybdenite showings found within these claims. All molybdenite showings are within the medium grained, porphyritic quartz monzonite.

No significant anomalies for tungsten, copper, lead, and zinc were indicated by the soil sample survey. Only one small isolated tungsten showing was found to which no significance was placed.

CONCLUSIONS

The 1980 mapping, prospecting and soil sampling survey on the OK mineral group has defined an area of scattered molybdenite showings within a plus 10 ppm Mo anomaly. The importance of these showings and anomalies should be determined by surface trenching, rock sampling and through an I.P. survey.
**APPENDIX A**

**Statement of Expenditures**

Cost of geological mapping and soil geochemical surveys on the OK mineral claims, Keremeos area, Osoyoos Mining District, B.C.

**SALARIES:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Days Worked</th>
<th>Rate per Day</th>
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<tr>
<td>T.W. Hodson</td>
<td>28</td>
<td>$123.03</td>
<td>$3,444.84</td>
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<tr>
<td>M. Seifert</td>
<td>23</td>
<td>$96.36</td>
<td>$2,116.28</td>
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<tr>
<td>K. MacDonald</td>
<td>23</td>
<td>$77.88</td>
<td>$1,791.24</td>
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<td>T. Wells</td>
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<td>$73.26</td>
<td>$1,684.98</td>
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**TRANSPORTATION:**

- Truck rental: 1 vehicle, August, 1980 including gas, oil, etc. **$882.45**
- Helicopter: 7.6 hrs. @ $407.26/hr including fuel and oil **$3,095.19**

**FIELD COSTS:**

- Food and accommodation: 97 man days @ $15.09/day **$1,463.38**
- Equipment: tents, field gear, etc. **$2,465.61**

**GEOCHEMISTRY:**

- 377 soil samples @ $7.30 for Cu, Pb, Zn, Mo, W **$2,925.25**
- 2 rock samples @ $15.45 for Cu, Pb, Zn, Mo, W, Ag, Au, F **$30.90**

**MISCELLANEOUS:**

- Freight **$20.60**
- Communications **$256.20**

**Total:** **$20,176.92**

Signed: T.W. Hodson, Geologist

11 December 1980
In the matter of the B.C. Mineral Act and in the matter of a geological and geochemical program carried out on the OK mineral claims located in the Osoyoos Mining District of the Province of British Columbia more particularly N.T.S.: 82E/4W

AFFIDAVIT

I, Terence W. Hodson, of the Municipality of Surrey, in the Province of British Columbia, make oath and say:

1. THAT I am employed as a geologist by Cominco Ltd., and as such have a personal knowledge of the facts to which I hereinafter depose;

2. THAT annexed hereto and marked as Appendix A to this my affidavit is a true copy of expenditures incurred in connection with a geological and geochemical program carried out on the OK mineral claims;

3. THAT said expenditures were incurred between the 28th day of July and the 19th day of August 1980 for the purpose of mineral exploration on the above noted claims.

Signed:

T.W. Hodson, Geologist

11 December 1980
I, Terence W. Hodson, of the Municipality of Surrey, in the Province of British Columbia, hereby certify:

1. THAT I am a geologist residing at 1455 129 B Street, Surrey, British Columbia, with a business address at 700-409 Granville Street, Vancouver, British Columbia.

2. THAT I graduated with a B.Sc. in geology from the University of British Columbia in 1980.

3. THAT I have practised geology with Cominco Ltd. from May 1980 to the present.

Dated this 11th day of December, 1980 at Vancouver, British Columbia.

Signed: 

T.W. Hodson, Geologist

11 December 1980
OK GROUP CLAIM MAP

Scale: 1:50,000
Date: Dec. 11, 1980
Plate: 2

NTS
82E/4W

Drawn by: TWH
Traced by: 

Revised by
Date
Approved by
Date

NCI 112A Cl.