REPORT ON GEOLOGICAL MAPPING ON THE DK-LEBEL PROPERTY
LEBEL TOWNSHIP
DISTRICT OF TIMISKAMING, ONT.
FOR
J. KIDSTON

S.J. CARMICHAEL CONSULTANTS
KIRKLAND LAKE, ONTARIO

AUGUST 8, 1994
NTS 32 D/SW
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Surface Geology, DK-Lebel Property, 1:2500
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INTRODUCTION

Geological mapping on the DK-Lebel gold property for J. Kidston was completed at a scale of 1:2500 metric over a total of three grid kilometres with grid lines cut at 50 metre centres. The property comprises a single unit claim with an area of approximately 10 Ha.

Lithologies mapped comprised for the most part trachytic flows and fragmentals of the Timiskaming Series with lesser greywacke sediments, also of the Timiskaming Series.

Outcrop exposure is moderate and estimated at 30%. Most of the bedrock exposures are located north of the baseline and at the east end of the claim. Extensive swamp occupies the central portion of the claim which is cut by an east-west trending power transmission line. A previously completed ground magnetics survey reveals a complex pattern of elevated magnetics caused by a more mafic magnetite-rich phase of trachytic volcanics. No significant mineralization was located, however, it was noted that the fragmental varieties or trachyte show extensive carbonate (ankerite) alteration and minor quartz stringers.

PROPERTY LOCATION, ACCESS AND FACILITIES

The DK-Lebel property is located in the central portion of Lebel Township, within the District of Timiskaming and under the jurisdiction of the Larder Lake Mining Division. Access to the claim is by highway 66 east from the Town of Kirkland Lake to the town of King Kirkland, a distance of six kilometres. A road leading south and southwest from King Kirkland terminates at the Ontario Northland Railway tracks, approximately 11.5 kilometres. The DK-Lebel claim is then accessed by an 800 metre hike south.

There are two ponds, one located 200 metres north, the other 200 metres south of the property which would furnish an adequate supply of water for diamond drilling operations. The claim is bounded to the south by the Pawnee Kirkland property, currently being explored by Queenston Mines.

LAND TENURE AND OWNERSHIP

The DK-Lebel property comprises a single 1-unit claim with an area of approximately 10 Ha.

The claim is recorded in the names of M. Dyment and J. Kidston, address P.O. Box 66, Swastika, Ontario, P0X 1H7. Both Dyment and Kidston hold a 50% interest in the claim.

The claim, along with the recording date and required assessment obligations are listed below.

<table>
<thead>
<tr>
<th>LAND TENURE</th>
<th>PROPERTY</th>
<th>DATE</th>
<th>POSTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIT 100.00</td>
<td>1 UNIT</td>
<td>1 JUN</td>
<td>0.00</td>
</tr>
<tr>
<td>TOTAL (1)</td>
<td>1 UNIT</td>
<td>1 JUN</td>
<td>0.00</td>
</tr>
</tbody>
</table>

3 Ha
A total of $400.00 must be spent on the property by Nov. 23, 1995 in order to maintain the claims in good standing. A ground magnetometer survey was completed prior to geological mapping. This work should keep the claim in good standing through the 1996 assessment year.

PREVIOUS WORK

Minor exploration work has been completed in the past on the claim. Geological mapping was completed in 1944 by A. Maclean for the Ontario Department of Mines.

In 1986, T. Tamminen completed trenching over the central portion of the claim, however, no evidence of this trenching was found during the 1994 mapping.

In 1990, Noranda Mines mapped the claim using 400' flagged grid lines as part of a larger program which covered the Pawnee Property located immediately south of the DK-Lebei claim. Noranda had optioned the Pawnee from Queenston Mining. Noranda's mapping noted sulfide mineralization within fragmental carbonated trachytic units along the power transmission line over the east part of the claim. Samples were taken for gold analysis, however, the results were negative.

In 1993, the claim was staked by Dyment/Kidston and the present grid was cut in early 1994 followed by a detailed magnetic survey.

REGIONAL GEOLOGY

The DK-Lebei property lies within the Abitibi Greenstone Belt located in the southeastern portion of the Superior tectonic province. The Abitibi belt is the largest and most continuous greenstone belt in the Canadian Shield, extending some 700 km from east to west with a width of approximately 100 km and is of Archean age. It is bound to the east by the Grenville Front and to the west by the Kapuskasing Structure. The belt consists of repetitive volcanic cycles ranging from ultramafic to felsic in composition. Clastic sediments are intercalated with the volcanic rocks, and in narrow fault bounded zones. Ultramafic to mafic intrusions as well as granitoid complexes exist.

The dominant structural style of the belt reflects the presence of local granitoid bodies with concordant external structures, the east-west trending isoclinal folds of regional extent. The belt has been deformed into a major east-west trending synclinorium that transects the central portion of the intact segment of the Abitibi belt.

Within the southern part of the belt, many steeply dipping, east-west trending discontinuous shear zones of undetermined displacement have been identified. Two major breaks have been identified including the Porcupine-Destor and Larder Lake breaks. These breaks follow lithofacies boundaries for the most part, including sedimentary volcanic interteracies. Many of the gold deposits of the area are closely associated with the shear zones especially in the Kirkland Lake-Larder Lake and Kaerrucki-Nadis areas. Approximately 75% of historical gold production in Canada is derived from the Abitibi belt.

The Kirkland Lake area is dominated by what is called the Upper Volcanic Cycle comprising a lower ultramafic sequence, Larder
Lake Group) disconformably overlain by a tholeiitic sequence (Kinojevis Group) which is in turn disconformably overlain by a calc-alkaline sequence (Blake River Group). This entire sequence is unconformably overlain by the late Archean Timiskaming Series of clastic sediments and felsic volcanics. All of the above have been intruded by stocks and bosses of mafic to syenitic composition and diabase, also of late Archean age.

A general stratigraphic column through the area is as follows:

**PLEISTOCENE AND RECENT DEPOSITS**

**UNCONFORMITY**

**KIMBERLITIC INTRUSIVES**

**UNCONFORMITY**

**LATE ARCHEAN DIABASE DIKES**

**UNCONFORMITY**

**FELSIC INTRUSIVES (GRANITIC MASSIFS, SYENITIC STOCKS):**

**UPPER SUPERGROUP**

**TIMISKAMING SERIES**

Mafic, intermediate, felsic trachyte, K-rich dacite and rhyolite flows and tuffs, fluvial conglomerates, sandstone and argillite. Stocks and dikes of syenodiorite, quartz monzonite and lamprophyre.

**UNCONFORMITY**

**BLAKE RIVER GROUP**

Calc-Alkaline basalt, andesite dacite and rhyolitic flows and tuffs. Stocks and dikes of gabbro, quartz gabbro, hornblende gabbro, diorite, quartz diorite and subvolcanic rhyolite domes

**KINOJEVIS GROUP**

Mg-rich and Fe-rich basalts and tholeiitic andesite, dacite and rhyolite. Sills of Mg-rich and Fe-rich gabbro.

**LARDER LAKE GROUP**

Flows of peridotitic and basaltic komatiite, Mg-rich tholeiitic basalt, minor Fe-tholeiitic basalt, rhyolite tuff-breccia

A lower Supergroup comprising a similar cyclical volcanic sequence is present south of the Larder Lake Break.

**PROPERTY GEOLOGY**

1. Lithologies
FIGURE 3 - CLAIM LOCATION PLAN 1"=1/4 MILE
The DK-Lebel property is underlain entirely by Timiskaming Series intermediate volcanics comprised entirely of trachytic flows and fragmentals. One small isolated outcrop of what appears to be a bedded greywacke was located near the south end of line 1+50W. Two types of trachytic units were mapped; they include:

1) Magnetic Intermediate Trachyte

This rock type is dark grey to black in colour, massive and moderately magnetic (magnetite). They appear to be non-discrupt flows exhibiting neither trachytic texture nor flow banding but they are generally weakly porphyritic and almost always amygdaloidal. (The weathered surface is generally pock-marked). They are fine-grained with 2-4% feldspar phenocrysts up to 2-3mm in size. The magnetometer survey indicated that these flows are confined to the east and extreme north portion of the property. They exhibit a moderate S:foliation trending northeast with sub-vertical dips to the north.

2) Carbonated Fragmental Trachyte

These units are generally confined to the southeast portion of the property and are well exposed along the transmission line. They are coarse fragmental units and are of more felsic chemistry than their magnetic counterpart. The contact between the two trachyte types is variable, but generally east-west. One exposure of the fragmental trachyte located on the northwest portion of the property exhibits an S:foliation of 064° dipping steeply north.

These rock types are relatively porous with fragments approaching 2-3 cm in size. They are almost always accompanied by moderate pervasive carbonatization giving a rusty, weathered appearance. Minor quartz stringers are sometimes present within these flows.

3) Greywacke

One small exposure of greywacke sediments was located on line 1-50W, 0+40S. The exposure is poor, but the unit is well bedded consisting of alternating bands of buff brown and light grey sediment. The banding is generally 1 cm in width. The poor exposure did not allow any bedding of foliation measurements. This unit shows only mild carbonate alteration.

ECONOMIC GEOLOGY

The trenching completed by T. Tamminen in 1966 were not located during the mapping. The supposed location of this work is drift covered. A trench and pit were located on line 1-50W, 1-60W. Weather this is the area worked by Tamminen is not known. The work appears to be at least 10 years old as both the trench and pit are filled in. There is no exposure in the trench. The pit is within magnetic trachytes with quartz stringers present in the wall of the pit. A sample of fly rock shows considerable quartz veining with trace to 1% pyrite mineralization. A sample of this material was given to J. Risdon for assaying, however, the results of the assaying were not available at the time of this report.

Mapping by Noranda Mines shows pyrite and malachite
FIGURE 4 - REGIONAL GEOLOGY
mineralization on the east portion of the property, likely within the carbonated fragmental units. No significant sulfide mineralization was located during the 1994 mapping, however, minor quartz stringers were located within carbonated trachyte along the south border of the transmission line between lines 1+50W and 1+00W.

CONCLUSIONS AND RECOMMENDATIONS

Further work on the property should include additional prospecting and sampling along the east portion of the transmission line and over the northwest portion of the claim, depending upon the assaying results from the pit. Electromagnetic methods will not work given the close proximity to the transmission line.

Respectfully Submitted

Stewart J. Carmichael, B.C., FGAC
APPENDIX 1

CERTIFICATE OF QUALIFICATIONS

I, Stewart J. Carmichael, of the Town of Kirkland Lake, in the District of Timiskaming, in the Province of Ontario, Canada, do hereby certify that:

1) I am a consulting geologist with address 42 Rand Avenue East, Kirkland Lake, Ont. P2N 1X1.

2) I am a graduate of McMaster University, Hamilton, Ontario, having received the degree of Bachelor of Science, Geology from the Faculty of Science in 1982. I have since practised in the field of mineral exploration continuously since graduation.

3) I am a Fellow of the Geological Association of Canada.

4) I have no direct or indirect interest, nor do I expect to receive any direct or indirect interest in the DK-Lebei property.

6) In addition to my personal knowledge of the area, I have made use of the records of the Ministry of Natural Resources of Ontario, in the preparation of this report.

Dated this 8th day of August, 1994

Stewart J. Carmichael, B.Sc., FGAC
APPENDIX 2

SOURCES OF INFORMATION


Ministry of Northern Development and Mines Assessment Files
Kirkland Lake

KL-2617 - Tamminen, T. Lebel Twp.
KL-2990 - Queenston Mining Inc.
Ministry of Northern Development and Mines

Report of Work Conducted After Recording Claim

Mining Act

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 128 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements.
- A separate copy of this form must be completed if technical reports and maps must accompany this report.
- A sketch, showing the claims the work is assigned to, must be included.

Information collected should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 128 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

Instructions: Please type or print and submit in duplicate.

- Refer to the Mining Act and Regulations for requirements.
- A separate copy of this form must be completed if technical reports and maps must accompany this report.
- A sketch, showing the claims the work is assigned to, must be included.

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<th>Type</th>
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<td>GEOLOGY</td>
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<tr>
<td>Physical Work, Including Drilling</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td></td>
</tr>
<tr>
<td>Other Authorized Work</td>
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<tr>
<td>Assays</td>
<td></td>
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<tr>
<td>Assignment from Reserve</td>
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Total Assessment Work Claimed on the Attached Statement of Costs: $481 22

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

- S.J. Carmichael
- 42 Rand Ave, Kirkland Lake, P0K 1J1

Certification of Beneficial Interest

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

For Office Use Only

- Total Value of Work Recorded: $421
- Date Recorded: Nov 7, 1994
- Date Recorded: Feb 6, 1995
- Date Notice for Assessment Sent: Nov 7, 1994
- Min. Div. Label: Lander Lake
Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

1. Credits are to be cut back starting with the claim listed last, working backwards.
2. Credits are to be cut back equally over all claims contained in this report of work.
3. Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

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Statement of Costs for Assessment Credit
État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.


1. Direct Costs/Coûts directs

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<th>Type</th>
<th>Description</th>
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<td>Wages/Salaries</td>
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<td>Field Supervision</td>
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<td></td>
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</tr>
<tr>
<td>Contractor's and Consultant's Fees</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Supplies Used</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Rental</td>
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<tr>
<td>Location de matériel</td>
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**Total Direct Costs**

**Total des coûts directs**

2. Indirect Costs/Coûts indirects

**Note:** When claiming Rehabilitation work indirect costs are not allowable as assessment work. Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

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**Sub Total of Indirect Costs**

**Valeur totale du crédit d'évaluation**

**Value totals of the credit d'évaluation**

**Filing Discounts**

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit. Le travail déposé dans les deux ans suivant son achèvement est remboursé à 100% de la valeur totale susmentionnée du crédit d'évaluation.

2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

\[
\text{Total Value of Assessment Credit} \times 0.50 = \text{Total Assessment Claimed}
\]

\[
\text{Valorisation à 50% de la valeur totale du crédit d'évaluation}
\]

**Certification Verifying Statement of Costs**

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as **Recorded Holder**, I am authorized
to make this certification

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.

2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

\[
\text{Valorisation à 50% de la valeur totale du crédit d'évaluation}
\]

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de **(nom de la personne)**
je suis autorisé

à faire cette attestation.
January 6, 1995

Mining Recorder
Ministry of Northern Development & Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir/Madam:

Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIM
L1200828 IN LEBEL TOWNSHIP

Assessment work credits have been approved as outlined on the report of work form for the submission. The credits have been approved under Section 12 (Geology) of the Mining Act Regulations.

The approval date is January 04, 1995.

If you have any questions regarding this correspondence, please contact Steven Beneteau at (705) 670-5855.

ORIGINAL SIGNED BY:

Yours sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Section
Mining and Land Management Branch
Mines and Minerals Division

SBB/dl

cc: Resident Geologist
Kirkland Lake, Ontario

Assessment Files Library
Sudbury, Ontario