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52E16SW0083 2.3672 JAFFRAY

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MINING LANDS SECTION

KENORA GOLD PROJECT
Eschweiler-Hilly Lake Claims
(Terrell Option)
Geological and Sampling Report

Jaffray Township
District of Kenora, Ontario
for
Sherritt Gordon Mines Limited
by

D. Glenn Harder, B.A., B.Sc.
Robert H. Morse, Ph.D., P.Eng.

December 31st 1980

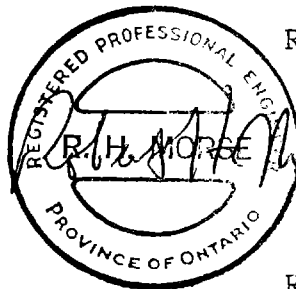
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MINING LANDS DIVISION

SUMMARY

Gold assay values as high as .64 oz/T were obtained from the dump of the old Eschweiler Mine. Values in the neighbourhood of .20 oz/T are common and are believed to represent widths of about a metre. Assay results from the Hilly Lake claims were poor but insufficient work has been done. Further stripping and blasting are recommended for both areas.



Respectfully submitted,

Robert H. Morse, Ph.D., P.Eng.

D. Glenn Harder

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DESCRIPTION OF CLAIMS

Claims described in this report cover two adjacent prospects in Jaffray Township, the Eschweiler and Hilly Lake (Fig 1). The Eschweiler is northwest of Hilly Lake and comprises two claims, K536398 and K536399. The Hilly Lake prospect is west of the lake and comprises four claims, K551833-5 and K551735. The Hilly Lake claims were staked by Michael A. Terrell of Skead, Ontario, recorded March 26th and 31st 1930 and optioned to Sherritt Gordon Mines Limited. The Eschweiler claims were staked for Sherritt and recorded about October 10th 1930. Still later the intervening and surrounding claims were staked for Sherritt.

Access to the claims is by good gravel roads running north from Highway 17. Hilly Lake road passes through the east part of the claims and Jones Road past the west edge.

PREVIOUS WORK

A 100 foot shaft was sunk at the Eschweiler in the early part of the century but no record of any production or assays is available from that period.

The Hilly Lake claims were worked around 1925 and 1940. In 1925 the main vein had been exposed by an open cut 100 feet long and 10 to 12 feet deep and a small mill was on

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the property. In 1940, 126 tons were mined and sent to the Kenopo mill. South of the open cut is a shaft of unknown depth. The summary of the Hilly Lake prospect from Ontario Ministry of Natural Resources MDC-16 is reproduced below.

1939: Extensive Tr.
Claim 432P - Q. stringers in shear zone. v.g., cpy, py. - 700 lbs. hand-picked (cobbed), no results available. - four 50 lb. samples from tr ran from 0.02 to 0.24 oz; Au/ton. - 3 tons removed from a second vein - some high assays were reported but a representative grab sample ran 0.24 oz. Au/ton.

White Claim:

Q. in fracture zone in granodiorite. - 10.5 tons removed - 8 tons milled - yielded = 0.51 oz. Au/ton (estimated 75% waste). - sampling yielded 0.53 oz. Au/ton across 2.5 ft. for a length of 60 ft. Values as high as 3.03 oz. Au/ton reported. - 6 lb. grab samples from sorted ore on dump yielded 0.64 and 3.78 oz. Au/ton. - coarse v.g. noted.

The Hilly Lake and Eschweiler prospects were acquired by Sherritt Gordon Mines Limited because of the favourable assays reported in the publications and files of the Ontario Ministry of Natural Resources.

PRESENT WORK

Work on the claims by R. H. Morse & Associates Ltd. for Sherritt Gordon Mines Limited included geological mapping, prospecting and assaying, with a small amount of trenching and VLF EM test lines. This work commenced in August and continued intermittently until November 14th 1980. At this point the trenching program was taken over by Sherritt

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personnel and their work is not included in this report.

Control for the exploration surveys was by reference to air photos and to a new east-west baseline 660 metres long.

GEOLOGY

Basalt, the oldest rock on the property, occupies a band 250 metres wide and trending northeasterly. The rock is schistose, altered and silicified.

Granodiorite is the most extensive unit on the property, covering most of the eastern portion. It consists of white feldspar (70%), quartz (20%) and hornblende and biotite (10%). Near the Eschweiler shaft it is altered to a pinkish colour and partly chloritized.

Between the basalt and the granodiorite is a band of hybrid rock, about 50 metres wide and trending northeasterly. This transition zone consists of an irregular mixture of basalt and granodiorite and appears to be a subangular contact breccia in part.

Bordering the property on the west is a plug of porphyritic quartz monzonite, 2 kilometres by 4 kilometres on surface. It consists mainly of coarse pink feldspar (85%), quartz (13%) and minor very fine grained mafics (2%).

Several minor units are thought to be related to the quartz monzonite. In the southwest portion of the property is a biotitic quartz monzonite consisting of biotite (15%),

and pink feldspar (70%). Minor pegmatite, with coarse pink feldspar (70%) and quartz (30%), occurs in the southwest portion as a concentration of boulders and one small outcrop. Narrow pink aplite dykes, 5 centimetres wide, intrude the granodiorite. They are particularly common in the area of the Hilly Lake shaft.

Pink to grey felsite dykes (fine grained feldspar and quartz) intrude the basalt, the hybrid rock and the granodiorite. The dykes are up to 5 metres wide. Fine grained sulfides sometimes occur along the margins. One narrow felsite dyke occurs at the Hilly Lake shaft.

GEOPHYSICAL TESTING

Three Radem VLF EM test lines were run over the Hilly Lake mineralized zones to see if any response was evident (Figure 1). No crossovers were observed and the survey was discontinued.

VEIN SYSTEMS, SAMPLING AND ASSAYING

The Eschweiler vein system strikes at 80° and appears to exceed 300 metres in length. It has been explored by a shaft and several old pits.

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Most of the rocks in the dump of the Eschweiler shaft are altered granodiorite as described above. A representative sample ran .18 oz/T. What appears to be a high grade dump consists of schist with coarse white quartz, minor carbonate, and fine disseminated pyrite. A representative sample ran .64 oz/T. This higher grade material appears to be from a zone about one metre wide.

At the main pit, 20 metres west of the shaft, a schistose zone about one metre wide is exposed. A pile of rusty quartz, minor chlorite and fine disseminated sulfides (arsenopyrite), apparently from this zone, ran .20 oz/T.

West of the main pit a vein-schist system runs at 50° to 70° . The exposed veins are .3 to 1 metre wide and there may be other parallel veins buried under moss or overburden.

An old pit 260 metres west of the shaft has exposed grey-black quartz rich schist with fine disseminated pyrite and minor carbonate. A sample of this material ran .42 oz/T. New blasting here for Sherritt resulted in values up to .35 oz/T over .5 metres.

Assay results from the Hilly Lake claims are less encouraging. Two main zones consisting of sheared diorite and siliceous schist have been exposed by a large trench and shaft. They are about 110 metres apart and strike at 65° .

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Samples collected from dumps and from in place ran nil and trace. These veins are not well exposed and the dumps have been picked over. Stripping and blasting are required to evaluate the Hilly Lake claims properly.

CONCLUSIONS

Several ore-grade samples were collected from the old Eschweiler mine and, although extent of this mineralization is not known, widths appear to be a metre or more. Further trenching is recommended. The negative results from the Hilly Lake prospect are based on insufficient data and further work is called for here as well.

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

Instrument _____

Method Time Domain Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

INDUCED POLARIZATION
RESISTIVITY



Ministry of Natural Resources

File _____

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL
TECHNICAL DATA STATEMENT

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JAN 16 1981

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Eschweiler

Type of Survey(s) Geological

Township or Area Jaffray

Claim Holder(s) Sherritt Gordon Mines Limited P.O. Box 28
Commerce Court West, Toronto M5L 1B1

Survey Company R. H. Morse & Associates Ltd.

Author of Report R. H. Morse D. G. Harder
298 Beech Ave 3H3 Box 1360 Deep River

Address of Author Toronto Ont.

Covering Dates of Survey Sept 11 - Nov. 14, 1980 KoJ 190

(linecutting to office)

Total Miles of Line Cut none: control by air photos

MINING LANDS SECTION

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

K536398

K536399

*no credits are
because work
done before work
was started &
mining records*

If space insufficient, attach list

SPECIAL PROVISIONS
CREDITS REQUESTED

DAYS
per claim

ENTER 40 days (includes
line cutting) for first
survey.

ENTER 20 days for each
additional survey using
same grid.

- Geophysical
 - Electromagnetic _____
 - Magnetometer _____
 - Radiometric _____
 - Other _____
- Geological 20
- Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: Jan. 14, 1981 SIGNATURE: Robert H. Morse
Author of Report or Agent

Res. Geol. _____ Qualifications L. 1260

Previous Surveys
File No. Type Date Claim Holder

File No.	Type	Date	Claim Holder
			<u>L.D</u>

TOTAL CLAIMS 2

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

**INDUCED POLARIZATION
RESISTIVITY**

Instrument _____

Method Time Domain Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

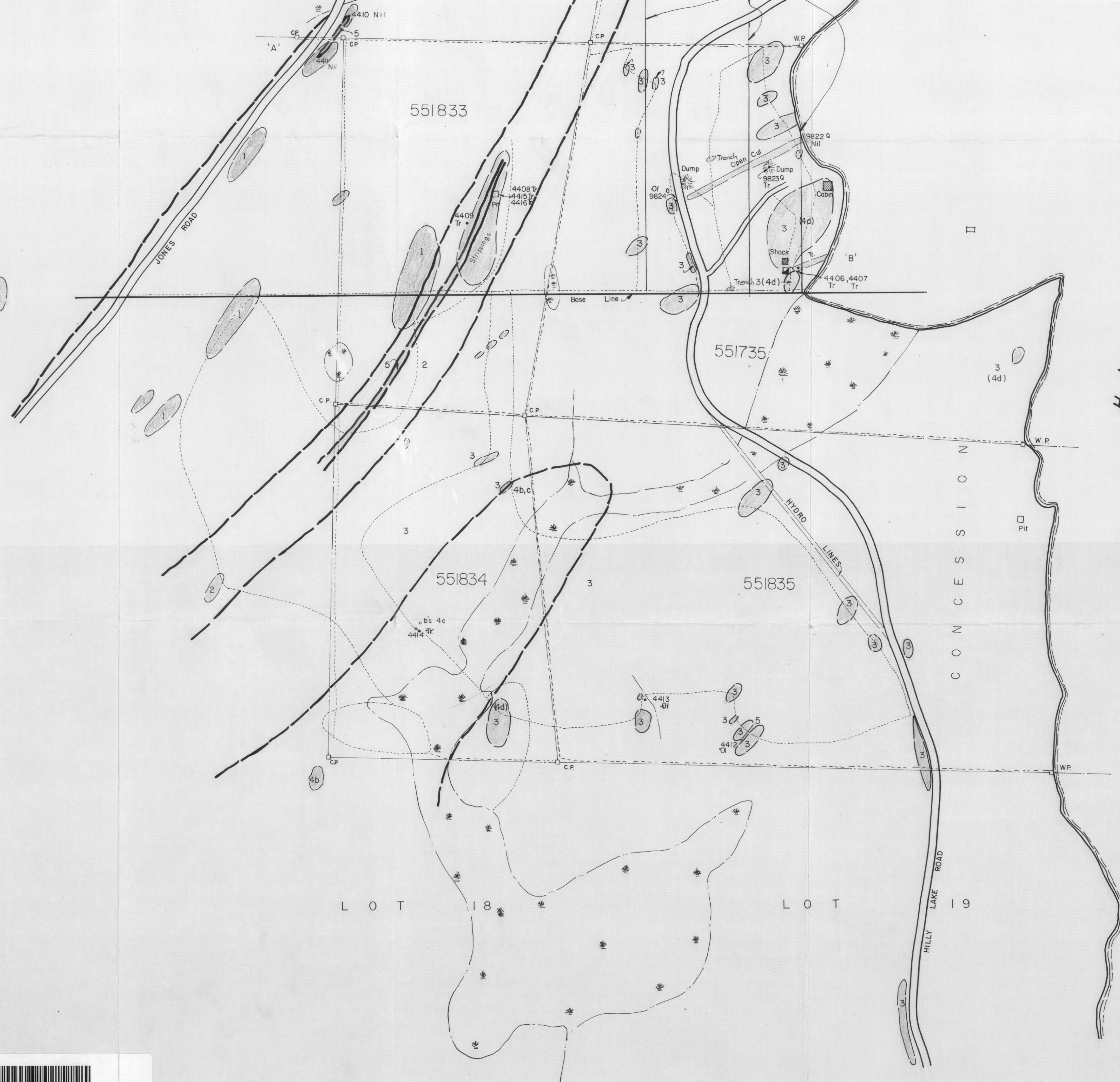
– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____



- LEGEND**
- 5 FELSITE - Fine grained feldspar + quartz, occurs as dykes, sometimes mappable, associated with coarse quartz and mineralisation
 - 4 QUARTZ MONZONITE - a) porphyritic - pink, mainly feldspar, quartz (15%) minor mafic
b) biotitic (15%)
c) pegmatitic - local
d) aplite - local veinlets (several cms. wide)
 - 3 GRANODIORITE - white feldspar, amphibole (chloritic), quartz
QUARTZ DIORITE - not mappable, seen locally at veins
 - 2 HYBRID ROCK - Mixture of silicified basalt and granodiorite, contact breccia in parts.
 - 1 BASALT - Schistose, some pillow remnants, altered, silicified.
 - OUTCROP AREAS \geq 30% Exposure
 - - - - - GEOLOGICAL CONTACT defined, assumed
 - MAJOR TRAVERSE LINE
 - Tr TRACE
 - 4409 SAMPLE LOCATION, SAMPLE NUMBER
 - SHAFT, water filled.
 - BOULDERS
 - CLAIM POST
 - qv- QUARTZ VEIN SHOWING STRIKE
 - ⊙ TRENCH TARGET
 - 1 SURFACE SAMPLE $\alpha\alpha/\tau$



G. Spindler

R.H. MORSE & ASSOCIATES LTD.
 FOR
 SHERRITT GORDON MINES LIMITED
KENORA GOLD PROJECT
 HILLY LAKE (TERRELL OPTION)
 JAFFRAY TOWNSHIP, ONTARIO M1729 52E / 16SW
GEOLOGY
 SCALE 1 : 2000

