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JUN 15 2004

GEOSCIENCE ASSESSMENT

GEOLOGICAL MAPPING GENEVA LAKE MINE CLAIM GROUP

Claims: S1241957, S1242025, S1242027

By:

R.H. Sutcliffe Address: 100 Broad Leaf Crescent, Ancaster, ON, L9G 3R8

And

Harold Tracanelli

June 12, 2004

Project Location – Hess Township Sudbury Mining Division Claim Map – Plan G4062 NTS Map Sheet – 41I/12, 41I/13 UTM Coordinates – 5181800N, 460600E

41I13SE2012 2.27864

SUMMARY

The Geneva Lake Mine property consists of 6 contiguous unpatented staked claims totaling 17 units that are recorded on the Hess Township claim map, Sudbury Mining Division. The property includes the past producing Geneva Lake Mine and is 45 kilometers northwest of the city of Sudbury, Ontario.

Following discovery of mineralization in 1924, the property has had a long history of exploration. The mine produced lead and zinc concentrates during the period 1941 to 1944. During this period 80,588 tonnes of ore grading 3.34% lead and 9.21% zinc were mined to produce 10.4 million lbs of zinc, 3.6 million lbs of lead.

The Geneva Lake Mine property is located in the Archean Benny Greenstone Belt. The greenstone belt contains Archean mafic, intermediate and felsic metavolcanic rocks, and metasediments. These supracrustal rocks are intruded by Archean granitoid and Proterozoic mafic rocks.

The current mapping program was carried out between June 7 and 9th, 2004. The purpose of the program was to follow up on geological mapping carried out in 2002 and to evaluate and prospect results of magnetic, time domain electromagnetic and VLF electromagnetic surveys conducted in the fall of 2003. The mapping program utilized an 11.4 kilometer cut grid with 100 meter line spacing that was established on the claims in 2002 to provide control for the geological survey on the property. The baseline has an azimuth of 138°. The current work program was restricted to the area between L3E and L3W and 3+00N to 2+00S. The Geneva Lake Mine occurs in the center of this area.

Major rock units in the claim group strike in an east-west direction across the area of the grid. All of the Archean rocks are characterized by a strong fabric that strikes approximately east-west and dips steeply to moderately to the south. The metamorphic grade is amphibolite facies. Rock units include: mafic metavolcanics, intermediate metavolcanics, felsic metavolcanics, minor metasediments, diorite, tonalite to granodiorite, Nipissing gabbro, and olivine diabase dikes.

The Geneva Lake deposit has been previously considered to be a stratiform volcanogenic massive sulphide. Results of current mapping suggest that the deposit may be a discordant vein located in the hanging wall of a Nipissing diabase sill. The trend of the deposit is 145° and this is oblique to the dominant strike of the Archean rock units. Furthermore there is no obvious stratigraphic horizon that would appear to correlate with the location of the deposit.

Prospecting identified two drill casings located 100 meters and 200 meters east of the Geneva Lake mine shaft. These holes apparently tested the area containing three VLF-EM anomalies that extend east from the Geneva Lake mine. This area also contains a weak airborne EM anomaly and a broad magnetic high. A 300 m drill hole located on

L1E at 0+75S and drilled at 048° with a 45° inclination should test for an eastern strike extension of the Geneva Lake mine.

LOCATION AND ACCESS

The past producing Geneva Lake Mine, located in Hess Township in the Sudbury Mining Division, is 45 kilometers northwest of the city of Sudbury, Ontario. The Geneva Lake Mine is 9 kilometers east of the Benny town site on the Canadian Pacific Railway and 7 kilometers west of highway 144 (Figure 1).

The property is accessible by a gravel road known locally as the KVP road. Proceeding north on highway 144, the KVP access road to the past producing Geneva Lake Mine is located 12.2 km north of the town of Cartier. The property is approximately 8 kilometers east of highway 144 on the gravel road. To reach the minesite, a right turn is required at 5.0 km from highway 144 at a fork in the gravel road. The road is not maintained in winter.

PROPERTY

The property (Figure 2) consists of 6 contiguous unpatented staked claims that are recorded on the Hess Township claim map (G4062), Sudbury Mining Division. The recorded holder of the claims is Richard H. Sutcliffe. Claim numbers with unit size and recording date are tabulated as follows:

Table 1. Geneva Lake mine claim group

Township	Claim Number	Number Units	Recording Date	
Hess	<u>S1241838</u>	2	November 30, 2000	
Hess	S1241957	4	June 15, 2000	
Hess	S1241958	2	June 15, 2000	
Hess	<u>S1242025</u>	2*	June 15, 2000	
Hess	S1242026	6	June 15, 2000	
Hess	<u>S1242027</u>	1	June 15, 2000	
Total	6 claims	17 units		
* recorded ori	ginally as four claims	s and amended to	2 claims	

PREVIOUS EXPLORATION

John Collins discovered a lead-zinc vein at what would later become the Geneva Lake Mine in the southeast corner of Lot 7, Con. 6 of Hess Township in October 1924. In 1925, the Collins-Babson Syndicate was formed and diamond drilling and trenching were carried out on the showings. In 1927 the property was optioned to Towagmac Exploration Co. Ltd. The company carried out 2000 feet of diamond drilling, sank a shaft to a depth of 250 feet and carried out 700 feet of lateral development on the 235 foot level.

In 1929, Lake Geneva Mining Co. Ltd. was incorporated with Towagmac Exploration Co. Ltd. retaining a controlling interest in the property. Development continued until 1930.

The following description of mine workings is from Card and Innes 1981. "In 1937 the shaft was deepened to 120 meters and additional working levels were established at the 94.5 and 112.5 meter levels. In 1943 an inclined winze was sunk below the ore zone from the 94.5 meter level to a vertical depth of 192 meters and two more levels were established at 157.5 and 184.5 meters (Card and Innes 1981).

The mine produced lead and zinc concentrates during the period 1941 to 1944.... During this period 80,588 tonnes of ore grading 3.34% lead and 9.21% zinc were mined to produce 10.4 million lbs of zinc, 3.6 million lbs of lead and silver valued at \$28,416. When the mine closed in 1944, 150,000 tonnes of ore were left in the workings.

In 1949 the property was acquired by Bidgood Kirkland Gold Mines Limited who erected a 125 ton per day mill, dewatered and rehabilitated the underground workings, and carried out underground sampling and some 3,600 meters of diamond drilling. This work indicated reserves of some 114,000 tons of material grading 10% zinc, 3% lead and 90 cents per ton precious metals."

In 1972, Geneva Metals Inc. (Lake Geneva Mining Co. Ltd.) carried out a ground magnetic and electromagnetic survey on the mine property. The same year Tex-Sol Explorations Ltd. carried out an airborne geophysical survey over most of the Benny Greenstone Belt as part of the massive sulphide exploration effort. In 1973, Geneva Metals Inc. performed a ground EM-16 electromagnetic, magnetic and horizontal loop electromagnetic survey. Magnetic and VLF-EM anomalies that were detected were reportedly related to the contact zone of a northeast trending diabase dike.

In 1984, Noranda Exploration Company Limited performed an airborne geophysical survey over the Benny Greenstone belt. No significant magnetic or electromagnetic anomalies were detected over the Geneva Lake Mine. In 1987, Falconbridge Ltd. flew an airborne geophysical survey over the Benny Greenstone belt with similar results to the Noranda survey.

In 1991, The Ontario Geological Survey carried out an airborne electromagnetic and magnetic survey over the entire Benny Greenstone belt. The survey revealed a number of weak EM anomalies on the property. Weak conductors were detected at the Geneva Lake Mine. One corresponds with the area of the tailings and a second appears to correspond with the trend of mineralization north west of the shaft.

R. H. Sutcliffe and H. J. Tracanelli conducted geological mapping in the area of the mine in 2002. JVX Ltd. carried out magnetic, time domain EM and VLF-EM surveys for R.H. Sutcliffe over the area east of the mine in 2003.

GEOLOGY

The Geneva Lake Mine property is located in the Archean Benny Greenstone Belt. The Benny Greenstone belt (Card and Innes 1981) is approximately 35 kilometer by 5 kilometer wide and is bounded by Archean granitoid rocks of the Ramsey-Algoma granitoid complex.

The Benny Greenstone belt is greenschist to amphibolite facies. A strong penetrative east striking fabric in the Archean rocks is approximately parallel to lithological contacts. Archean supracrustal rocks consist of calc-alkaline andesite, dacite, and rhyolite flows, pyroclastic tuffs and breccias, cherty metasediments, graphitic shales and turbidite which form the Geneva assemblage and tholeitic basaltic flows with minor calc alkaline volcaniclastic and metasedimentary rocks forming the Bluewater assemblage (Card and Innes 1981; Jackson and Fyon, 1991). Significant stratabound mineralization such as the Geneva Lake Mine is associated with the top of the Geneva assemblage. Based on northward facing directions throughout the belt, Guthrie (1980) concludes that the Bluewater assemblage conformably overlies the Geneva assemblage.

Early Proterozoic Huronian metasedimentary rocks and Nipissing gabbroic rocks overlie and intrude the Archean rocks of the Benny Greenstone belt.

The grid is predominantely underlain by Archean metavolcanic and metasedimentary rocks of the Benny Greenstone belt and by Archean granitoid intrusions. Locally Early Proterozoic mafic rocks intrude the Archean rocks. The Archean metavolcanic and metasedimentary rocks are metamorphosed to amphibolite facies and are strongly foliated.

Major units strike in an east-west direction across the area of the grid. All of the Archean rocks are characterized by a strong fabric that strikes approximately east-west and dips steeply to moderately to the south. In the area of the Geneva Lake mine the stratification in the metasedimentary sequence strikes northwest, whereas both east and west of the mine the stratification strikes east. The deposit is considered to occur on the southeast flank of a large antiformal drag fold (Card and Innes 1981). The deposit dips at 40 to 75° to the southwest (Card and Innes 1981).

The bedrock is partly mantled by Pleistocene till, sand, and gravel and by recent swamp deposits. Parts of the grid have relatively heavy overburden with large bouders.

The rocks underlying the grid have been subdivided mapped units which are described as follows (Sutcliffe and Tracanelli 2002).

Mafic Metavolcanic rocks (Unit 1)

Rocks that are estimated to contain greater than 40 percent mafic minerals are mapped as mafic. Outcrops of mafic metavolcanic rocks occur north of the Geneva Mine on the KVP road. At this location the mafic metavolcanic rocks are dark grey to black on

weathered and fresh surfaces, medium-grained, and strongly foliated to gneissic. The rocks are composed of sub-equal amounts of hornblende and plagioclase. Plagioclase is locally segregated into centimeter scale feldspathic bands resulting in a gneissic fabric. Lenses of epidote rich material are also present.

Intermediate Metavolcanic rocks (Unit 2)

Rocks estimated to contain 15 to 40 percent mafic minerals are mapped as intermediate. These rocks are the dominant lithology in the central part of the grid area, particularly south and east of the Geneva Mine.

The intermediate metavolcanic rocks are medium to dark grey on weathered and fresh surfaces and fine-grained to aphanitic. The rocks are strongly foliated to locally gneissic. Wispy lenses of amphibole and biotite are locally observed in the intermediate rocks.

At many locations, such as at BL0 4+50 E, the intermediate metavolcanic rocks contain heterolithic mafic to felsic fragments that have been strongly flattened. The fragments typically have dimensions of 1 to 2 centimeters in the short dimension and 10 centimeters in the long dimension.

Felsic Metavolcanic rocks (Unit 3)

Rocks estimated to contain less than 15 percent mafic minerals are mapped as felsic. A prominent band of felsic rocks occurs east of the Geneva Lake mine such as at L2E 2+25N. Smaller felsic units occur on L4E 1+00N and at BL0 5+00E.

The felsic rocks are light buff to pinkish coloured on fresh and weathered surfaces. The rocks are strongly foliated. The unit crossing L2E 2+25N has 1 by 3 millimeter flattened quartz lenses that are probably relict phenocrysts.

Metasedimentary rocks (Unit 4)

Minor metasedimentary rocks are mapped south of the baseline between L4E and L5E. These are highly deformed, micaceous inclusions in granitoid rocks.

Minor siliceous pyritic metasediments are noted in the vicinity of the trench on L4E 1+00N.

Dioritic rocks (Unit 5)

Medium grained, massive to weakly foliated hornblende diorite occurs in outcrops near the Geneva Lake mine shaft. The diorite intrudes intermediate metavolcanics.

Granitoid rocks (Unit 6)

Medium grained, massive to foliated tonalite to granodiorite is present on the southern margin of the metavolcanic rocks. The tonalite to granodiorite contains approximately 25% quartz and less than 10% mafic minerals. Sills of granitoid rocks intrude the metavolcanic rocks north of the base line between L4E and L5E.

Nipissing gabbro (Unit 7)

Medium grained Nipissing gabbro forms east-west striking sills that intrude the Archean rocks. The Nipissing gabbro is generally medium-grained and massive. Chill contacts with fine-grained diabase is observed at several localities.

Olivine diabase (unit 8)

North-south striking olivine diabase dikes are observed to intrude the Archean rocks at several locations. The olivine diabase is fine- to medium-grained, massive and dark brown weathering. Good examples are observed on L3E south of the base line.

Alteration

Minor to moderate epidote alteration, silicification, and locally carbonate alteration is noted in intermediate to felsic rocks north of the baseline and east of the Geneva Mine. In the current mapping epidote alteration was noted in mafic metavolcanics (unit 1) and Nipissing diabase (unit 7) north of the Geneva Mine.

Mineralization

Strong chalcopyrite, pyrite and magnetite mineralization occurs at the location of the Geneva Mine shaft. Minor disseminated pyrite, pyrrhotite, chalcopyrite mineralization is noted in metavolcanic rocks particularly in the vicinity of L3E north of the baseline.

GRID

A cut grid with 100 meter line spacing was established on the claims in late April and early May 2002. The grid re-establishes an older grid probably cut in the last 10 years. The location of the old grid was established by Harold Tracanelli and Richard Sutcliffe on April 23, 2002. Glenn McBride, Notre Dame du Nord, Quebec was contracted to cut the grid. The total length of the grid including the baseline and tie line is 11.4 kilometers. The baseline has an azimuth of 138°. The base line and grid lines are picketed at 25 meter spacing. The grid origin is the Geneva Lake Mine shaft. The grid layout is shown in Figure 3.

CURRENT GEOLOGICAL SURVEY

Geological mapping and prospecting was carried out by Richard Sutcliffe and Harold Tracanelli in June 7 to 9, 2004. Mapping was done using the grid as control and pace and compass traversing between grid lines. Garmin hand held GPS receivers were also used

to collect additional control information. NAD 83 was used as the datum for UTM coordinates in table 2.

The current work program was restricted to the area between L3E and L3W and 3+00N to 2+00S. The Geneva Lake Mine occurs in the center of this area. Lines L2W to L2E were remapped.

The purpose of the program was to follow up on geological mapping carried out in 2002 and in particular evaluate the stratigraphy in the area of the mine. In addition the current program evaluated and prospected the results of magnetic, time domain electromagnetic and VLF electromagnetic surveys conducted in the fall of 2003.

RESULTS

Stratigraphic Sequence

In the claim group, metavolcanic rocks range in composition from mafic to felsic and potentially define a stratigraphic sequence despite strong metamorphism and deformation. The sequence at the Geneva Mine shaft consists of intermediate volcanics (unit 2) intruded by diorite (unit 5) and felsic rocks (unit 6). 180 meters north of the Geneva Mine shaft are strongly deformed mafic metavolcanics (unit 1) which have been intruded by Nipissing gabbro. The unit of quartz phyric felsic metavolcanics that occurs on L2E between 2+00 and 3+00 N may occur between unit 2 and unit 1 but is not exposed north of the Geneva Mine shaft. This sequence strikes east-west.

Based on the location of the Geneva Mine shaft and the vent raise located on competitor claim 1241371, the deposit has a northwest-southeast trend. This trend appears to be discordant to the regional stratigraphic trend. The deposit dips at 40 to 75° to the southwest (Card and Innes 1981).

At the Geneva Mine shaft, similar intermediate metavolcanic rocks (unit 2) occur in the immediate hangingwall and footwall of the exposed magnetite chalcopyrite mineralization. Based on an examination of outcrops near the mine shaft, there is no obvious stratigraphic horizon that would appear to correlate with the location of the deposit.

Prospecting of Geophysical Results

JVX Ltd. (2003) outlined 3 east-west trending VLF-EM conductors identified on the accompanying map as V-2, V-3 and V-4. These conductors extend across L1E, 2E and 3E. A broad magnetic high feature also correlates with the conductors. V-2 is coincident with a weak airborne EM anomaly identified in the 1991 OGS survey. The anomalies are all underlain by tailings from the Geneva Lake mine or by swamp. All of the anomalies are east-west trending and subparallel to the trend of lithological units in the area, however, no outcrop was identified associated with the conductors.

Prospecting identified two drill casings located 100 meters and 200 meters east of the Geneva Lake mine shaft. These holes apparently tested the area containing three VLF-EM anomalies that extend east from the Geneva Lake mine.

INTERPRETATION

Although the Geneva Lake deposit has been previously considered to be a stratiform volcanogenic massive sulphide, the results of the current mapping suggest that the deposit may be a discordant vein. Previous workers have noted the different trend of the deposit and regional stratigraphy but attributed this to the deposit occuring on the southeast flank of a large antiformal drag fold (Card and Innes 1981). The apparent stratification in the Geneva Mine area strikes northwest, whereas both east and west of the mine the stratification strikes east.

The Nipissing diabase (unit 7) located 200 meters north of the Geneva Mine shaft dips south underneath the Geneva Mine deposit. The deposit geometry is consistent with a southwest dipping vein that occurs in the hangingwall of the Nipissing diabase sill.

RECOMMENDATIONS

Assessment files should be reviewed to determine if there is any information on the two drill holes located east of the Geneva Lake mine shaft. The review should determine if there is any explanation for the VLF-EM and magnetic anomaly that occurs in this area.

A 300 m drill hole located on L1E at 0+75S and drilled at 048° with a 45° inclination should test for an eastern strike extension of the Geneva Lake mine.

Fu 14 2004.

Table 2. UTM coordinates for various points on Geneva Lake grid

	Easting	Northing	
BL0, 1E	0460750	5181936	
L1E, 1+00N	0460828	5182002	
L1E, 0+50S	0460707	5181898	
L2E, 0+50N	0460852	5181902	
L2E, 0+75S	0460761	5181809	
Old DDH collar, 006°/64°	0460767	5181955	
Old DDH collar, $005^{\circ}/72^{\circ}$	0460852	5181928	

Garmin, hand held GPS unit, NAD 83 datum

STATEMENT OF QUALIFICATIONS

I hereby certify that:

- 1. I am a consulting geologist and reside at 100 Broad Leaf Crescent, Ancaster, Ontario, L9G 3R8.
- 2. I am a practicing member of the Association of Professional Geoscientists of Ontario.
- 3. I graduated from University of Toronto with a Bachelor of Science Degree in 1977, and Master of Science Degree (Geology) in 1980, and the University of Western Ontario with a Ph.D in geology in 1987.
- 4. That I have been practicing my profession for the past 25 years.
- 5. That the claims described in this report are registered in my name.
- 6. That the accompanying report is based on site visits to the property, general knowledge of the area, and a review of documents pertaining to the property.

7. I consent to the use of this report for assessment purposes as required.

Ancaster, Ontario June 14, 2004

Richard Sutcliffe, Ph.D., P.Geo.

REFERENCES

Card, K.D., and Innes, D.G., 1981, Geology of the Benny Area, District of Sudbury; Ontario Geological Survey Report 206, 117 pages. Accompanied by Maps 2434 and 2435, scale 1:31,680 (1 inch to ½ mile).

Guthrie, A.E., 1980, Volcanic stratigraphy of the Geneva Lake greenstone belt, Ontario, unpublished MSc Thesis, University of Western Ontario, London, Ontario, 214 p.

Jackson, S.L. and Fyon, J.A., 1991, The Western Abitibi Subprovince in Ontario, in Geology of Ontario, Ontario Geological Survey, Special Volume 4, Part 1, p. 405 to 484.

JVX Ltd. 2003. Geneva Lake Mine property, Hess Twp., Sudbury Mining Division, Report on TDEM, MAG-VLF Survey, September 2003. Assessment report.

Sutcliffe R.H. and Tracanelli, H.J., 2002, Geological survey, Geneva Lake Mine Claim Group, Hess Twp., Sudbury Mining Division. Assessment report.

FIGURES

Figure 1. Property location Figure 2. Claim Map Figure 3. Grid Layout

MAPS

Geology of the Geneva Lake Mine claim group, Scale 1:2000

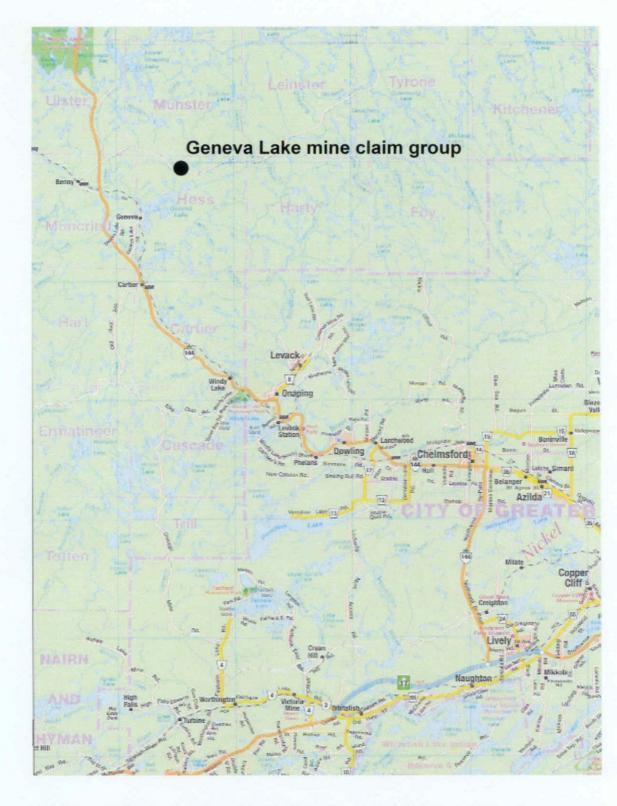


Figure 1. Property location, Geneva Lake Mine claim group

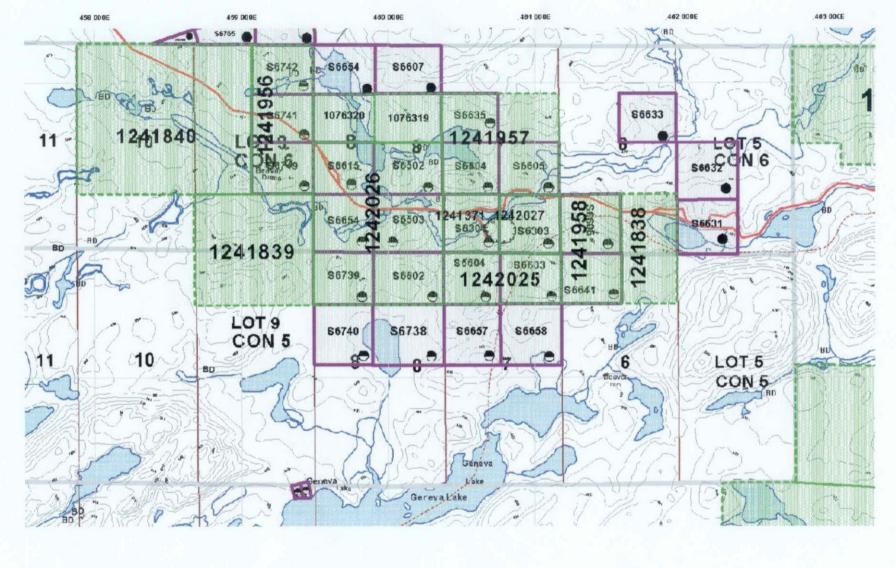


Figure 2. Claim map, Geneva Lake Mine Claim Group, Hess Twp., Sudbury Mining Division, Ontario

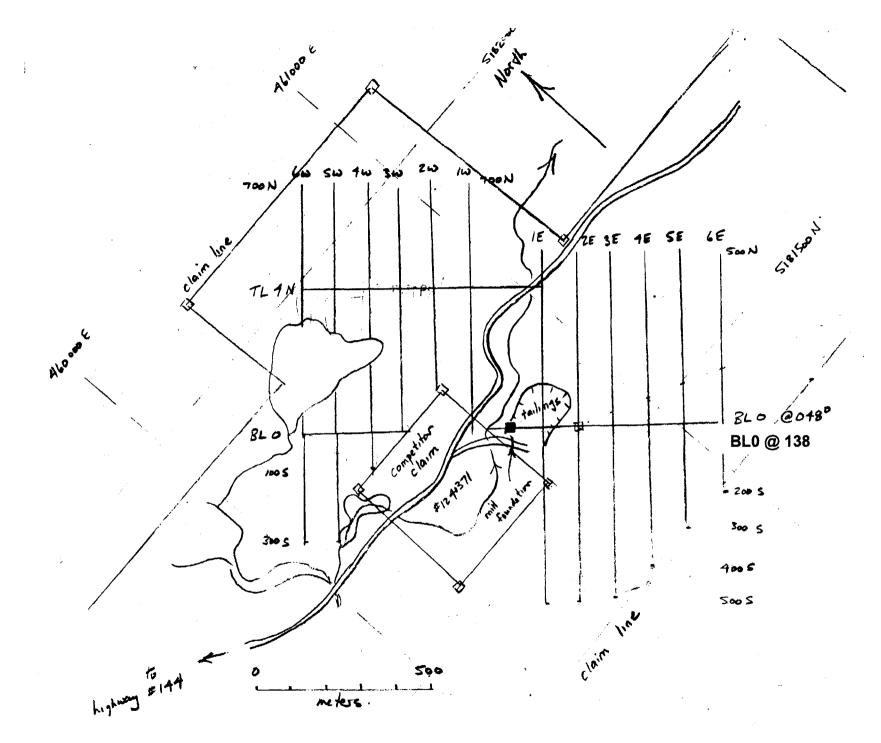


Figure 3. Grid layout, Geneva Lake Mine claim group

Reserve



Work Report Summary

Transaction No:

W0470.00924

Status: APPROVED

Recording Date:

2004-JUN-15

Work Done from: 2004-JUN-07

Approval Date:

2004-JUN-15

to: 2004-JUN-14

Assign

\$1,390

Client(s):

225603

SUTCLIFFE, RICHARD HARRY

Survey Type(s):

GEOL

Work Report	Details:			
Claim#	Perform	Perform Approve	Applied	Applied Approve

ove **Approve Approve** Assign Reserve **Due Date** S 1241957 \$1,410 \$1,410 \$1,600 \$1,600 \$0 0 \$0 \$0 2005-JUN-15 1241958 \$0 \$0 \$800 \$800 \$0 0 \$0 \$0 2005-JUN-15 1242025 \$400 \$800 \$800 \$0 2005-JUN-15 \$400 \$0 0 \$0 \$0 2006-JUN-15 1242027 \$1,800 \$1,800 \$410 \$410 \$1,390 1,390 \$0 \$3,610 \$3,610 \$0 \$0

\$1,390

\$3,610

External Credits:

\$0

Reserve:

\$0 Reserve of Work Report#: W0470.00924

\$3,610

\$0 **Total Remaining**

Status of claim is based on information currently on record.

Ministry of Northern Development and Mines

Ministère du Développement du Nord

et des Mines

Date: 2004-JUN-15



GEOSCIENCE ASSESSMENT OFFICE 933 RAMSEY LAKE ROAD, 6th FLOOR SUDBURY, ONTARIO P3E 6B5

Tel: (888) 415-9845 Fax:(877) 670-1555

Submission Number: 2.27864 Transaction Number(s): W0470.00924

RICHARD HARRY SUTCLIFFE 100 BROAD LEAF CRESCENT ANCASTER, ONTARIO L9G 3R8 CANADA

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

NOTE: Duplicate copies of the Declaration of Assessment Work forms are no longer required.

If you have any question regarding this correspondence, please contact BRUCE GATES by email at bruce.gates@ndm.gov.on.ca or by phone at (705) 670-5856.

Yours Sincerely,

Ron C. Gashinski

Senior Manager, Mining Lands Section

Rom c Gashinsh.

Cc: Resident Geologist

Richard Harry Sutcliffe

(Claim Holder)

Assessment File Library

Richard Harry Sutcliffe (Assessment Office)

