# SUMMARY TECHNICAL REPORT 

PRICE TWP. PROPERTY
James E. Croxall
O.P.A.P. File \#OP95-068

Matti Kangas
O.P.A.P. File \#OP95-067

September $1^{1 n} 1005$

## PROJECT LOCATION AND ACCESS



The Property consists of 91 claims Porcupine mining division of North-Eastern Ontario. There are 49 claims ( 50 units) in the North-West corner of Price Twp. (claim map plan M-307), 35 contiguous claims in the S.W. corner of Ogden Twp. (claim map no. G-3979), and 7 adjoining claims ( 8 units) in N.E. Thorneloe Twp. (claim map no. G-3229). The centre of the claim group lies at $48^{\circ} 22^{\prime} \mathrm{N}$. latitude and $81^{\circ} 27^{\prime} \mathrm{W}$. longitude. (N.T.S. map sheet 42-A-5/6).

Figure 1 attached is a key map showing the general location of the property. Figure 2 is a list of claims for the property and a claim diagram indicating where the work was done in 1995.

The westerly continuation of Dalton Road from Timmins (along and south of the Mattagami River) crosses the extreme N.W. corner of Price Twp. en route to the Wawaitin Falls power installation and Kenogamissi Lake. (see Fig.3) About 100 metres south of the Price-Ogden common Twp. boundary along this road, a side-road known as the "Musgrove (timbering access) Road" branches to the south-east then turns southward and parallel to, but a half mile west of, the Grassy River. The (south) east boundary of the Price claims lies approximately midway between the Grassy River and the Musgrove Road. Numerous logging roads branch from both the above roads providing excellent property access.

All historical work performed up to and including the 1994 O.P.A.P. work on the property has resulted in the definition of a high-priority exploration area labelled the "zone of interest" in Figure 3. About 528 gold assays by Chevron Canada Ltd. (19881990) and 240 by the writer and his partner (1993 and 1994 0.P.A.P. programs) were done from samples distributed through a variety of geologic horizons on the Price Township part of the 91 claim property. All gold values obtained are restricted almost exclusively to that zone of interest.

The main geological features within the zone include what appears to be a major altered feldspar porphyry intrusive body within an extensive zone of east-west striking ultramafic and mafic rocks which are flanked to the north by heavily sheared and hematized sediments. The possibility exists that a second parallel fault zone may flank the southern contact of the ultramafics within a zone of mafic rocks.

The Chevron Canada program was based on "an interpreted break and favourable stratigraphy similar to those in the southern part of the Porcupine Camp (Aunor, Delnite, Kenilworth, DeSantis mines)". Chevron drill holes numbered 2 (1988) and 4 (1990) on Figure 3 intersected heavily sheared and altered sediments (300 ft. width in hole 2). Quartz bearing sections of the sheared zone adjacent to and within felsic porphyry dikes were found to contain significant quantities of gold. Gold assays ranged from 0.010 to $0.083 \mathrm{oz} /$ ton over 9.5 ft . in hole 2 and 0.016 to $0.066 \mathrm{oz} /$ ton over 10.5 ft . in hole 4 (which did not penetrate the entire width of the sheared zone).

Adjacent to the southern contact of the ultramafics and mafics, Chevron hole 3 penetrated an I.P. target consisting of a 112 ft . width of pyritic felsic volcanics (51 ft.) and pyritic felsic ash-lapilli tuffs ( 61 ft .) . From other intercepts in the Chevron I.P. survey, this unit appears to have an east-west strike length in excess of $3 / 4$ miles. (The western end of this unit in the vicinity of Chevron XL 22W co-incides with an airborne V.L.F. response.) Seven anomalous gold values from 100 ppb to 370 ppb and two anomalous zinc values exceeding 1000 ppm were obtained in this intersection. An associated 16 ft . wide felsic porphyry dike contained three anomalous gold assays ranging from 110 to 250 ppb .

Croxall drill hole JC941 (1994 O.P.A.P. grant OP94-188) cut into (and ended in) 335 ft . of massive altered feldspar porphyry. The hole was designed to test a portion of the width a large ovalshaped magnetic low whose apparent dimensions are at least 3300 ft . in length and about 1000 ft . in width (The low is ringed by a magnetic high). The porphyry contains dessiminated pyrite throughout. Fifty-eight assay sections in the pyritic porphyry gave gold values ranging from 0.01 to $0.20 \mathrm{gm} /$ tonne. (A quartz-rich section containing $3 \%$ pyrite gave a 4.5 ft . intersection of 0.067 oz/ton Au.)

The 1995 programs completed for this area include testing the porphyry body further (J.Croxall application) and testing flanking altered shear zones to the north of the porphyry body and (possible) sheared zones and associated known I.P. horizon to the south of the porphyry body. (M.Kangas application)

Additional motivation for both these 1995 programs can be found in the attached copy of a recent report by the Timmins Resident Geologist which describes the porphyries on the Price Twp. claims as similar to those at the Hemlo gold deposit and at the McIntyre Mine in Timmins. They are also reportedly similar to zones currently being explored by Placer Dome in contiguous Bristol Twp. as well. The report states that economic gold mineralization may occur within the porphyry body (i.e. J.C. proposal) and along the contacts of the ultramafic ring. (i.e.faulted contact with sediments) (i.e. M.K. proposal)

## GEOLOGY BASED ON 1995 O.P.A.P. PROGRAM

a) Grant \# OP95-068

One of two drilling locations tested (described later as holes JC943 and JC944) contained significant intersections of altered porphyry giving more confidence to the interpretation that the 3300 ft . long X 1000 ft . wide magnetic low is indeed a large porphyry body. The other location (JC942) was not verified as part of the body as difficult drilling conditions forced the abandonment of the hole before it encountered the porphyry.

## b) Grant \# OP95-067

One of the three holes designed to explore shear zones adjacent to the porphyry contained badly fractured and broken rock (MK-936). The second hole is believed to have overshot its targeted shear zone (MK 937). It is believed that the third hole, which penetrated a very wide zone of altered volcanic rock containing significant pyrite mineralization over approximately 200 ft ., had not reached a postulated east-west shear zone (MK-938).

## WORK PROGRAM

## 1) Overall Program

The two separate grants were approved for work on the same property. Because the focus of both were similar, one technical report has been written to cover the grant reporting requirements (phone conversation and fax to Ralph Huggins on June 16/95).
grant). but because of unexpected charges for loss of casing rods and excessive use of drill mud particularly in hole MK-937, the planned footage had to be reduced as follows:


2-A DRILLING RESULTS - M.KANGAS O.P.A.P. GRANT \# 095-067
The overall objective of this program was to test a known shear zone along the northern boundary of a newly discovered porphyry body ( 1994 O.P.A.P. Program) and to test for a postulated shear zone associated with flanking I.P. anomalies along the southern boundary of the new porphyry body.

Hole No.MK-936 (246'L.)
An I.P. target was located by Chevron under the Musgrove Road and XL 10 W at the 12 N . baseline. It was postulated that an east-west shear zone may lie near the contact of an ultramafic unit adjacent to the porphyry body at the target location.

A magnetometer profile over the zone along XL 10 W by the writer failed to distinguish any underlying anomalous unit(s).

The hole intercepted bedrock after 66 ft . of casing (46 v.ft.o.b.). Twelve feet of badly fractured, vuggy altered
mafic flows were encountered at the bedrock interface. This was followed by 68 ft . of volcanic sediments (banded tuffs) containing 24 inches of semi-massive pyrite at 144'-146' in the hole (probable I.P. target). The sediments were followed by 100' of fractured mafic volcanics to the end of the hole.

## Economic Results

The upper mafic unit contained only sparse, sporadic disseminated pyrite. The banded tuffs were unremarkable with respect to sulphides except for the single narrow 2 ft . semi-massive pyrite zone. The lower mafic unit included one 13.0 ft . run containing fine disseminated pyrite (175'-188') and one 7.5 ft . run of pyrite disseminations and a few pyrite bands (188'-195.5'). Two narrow quartz veins were cut between 213.5'-215' in the hole.

## Assays

There were no significant assays.
Hole No. MK-937
This hole was designed to test for the eastward extension of the gold-bearing quartz porphyries in shear zones drilled in the sediments by Chevron between 900 and 2300 meters to the west.

A magnetometer profile over the zone indicated that the target contact between ultramafics and the sediments to the north may lie further north than shown in Chevron's interpretation. The hole was collared 25 meters north of their indicated contact. Over $112 \mathrm{v} . \mathrm{ft}$. of overburden was encountered. Difficulties in drilling through the overburden resulted in the use of excessive quantities of drill mud and the subsequent loss of a run of casing which had to be blasted off. The sheared sediments were not encountered in the core. It is believed that the shear zone was overshot. The hole was ended 136 ft . into mafic volcanic flows.

## Economic results

Four samples were taken along narrow sections of the core which were brecciated with disseminated pyrrhotite in the thread-like quartz matrix.

## Assays

There were no significant assays.

## Hole No. MK-938

This hole was designed to test a known I.P. target and rocks to the north of it which were not surveyed by magnetometer in the Chevron project. A possibly sheared zone \&/or maficultramafic contact were thought to lie in the 200 meters between the I.P. target and 12 N baseline (which marks the southern edge of the Chevron magnetometer grid) where they interpreted underlying ultramafic rock.

A magnetometer profile over the zone by the writer indicated a definite Mag low flanking and immediately south of the I.P. target.

## Economic Results

After only 15 ft . of casing, the hole intercepted interlayered mafic volcanics and altered felsic tuffs to 147.5 ft . which contained only occasional sparsely disseminated pyrite. The core then cut an 8.5 ft . feldspar porphyry dike and entered into a 43.5 ft . width of banded sediments (possibly the cause of the Mag low). This was followed by 215 ft . (end of hole) of heavily altered, well mineralized mafic volcanic rock. Disseminated pyrite making up to $5 \%$ of the core occurred throughout the entire section. In numerous places this was accompanied by bands and blebs of semi-massive pyrite adding up to $30 \%$ of the core. The entire mineralized interval consisted of alternating redbrown alteration zones and pistachio green (epidotized) sections. The first 6 ft . of the zone was graphitic in appearance with 15-30\% pyrite seams. This heavy sulphide mineralization explains the I.P. anomaly.

## Assays

An 18 ft . section of altered felsic tuff (between 28.0 and 46.0 ft .) sampled in 2 locations gave 24 and 31 PPB over a total width of 11.5 ft .

A 5 ft. section of mafic volcanics containing a one $f t$. wide coarse lapilli tuff assayed 82 PPB Au ( 61.0 to 66.0 ft . in hole). A 13 ft . section of a 17 ft . wide intercept of altered felsic tuff (between 66.0 and 79 ft .) gave assays of 175,219,408 and 2026 PPB Au.

The 8.5 ft . feldspar porphyry dike ( 139 to 147.5 ft .) assayed 27 PPB Au. The heavily pyritized 215 ft . of mafic volcanics were disappointing with no significant Au. assays obtained.

2B-DRILLING RESULTS -J.CROXALL O.P.A.P. GRANT \# OP95-068
The overall objective of this program was to investigate other parts of the gold-bearing porphyry body discovered in a 1994 O.P.A.P. grant project.

This hole was designed to test a "necked-down" section of the magnetic low which, after last year's program, was believed to be a large gold-bearing porphyry body. The Chevron Mag survey indicated a narrow Mag low section crossing the township line between Thorneloe \& Price Twps. immediately north of Chevron's baseline 12N. It was hoped that both the north and south contacts of the narrow porphyry zone could be investigated with one drill hole.

A magnetometer profile completed by the writer over the zone along the Twp. line gave very erratic results and failed to define a distinctive Mag low zone. It became very difficult to repeat readings taken at many stations. This, and the profile following for hole JC-943, did not yield credible, repeatable readings. (The unit, which had been borrowed from a local exploration company, was believed to be faulty and confidence in results of all profiles done with it was

The hole was collared using the Chevron magnetics. After $9^{\prime}$ of casing 123 ft . of very unusual heavily-fractured rock was encountered. The colours and textures were non distinctive and the writer described it as a fragmental mafic volcanic being a vague blend of various phantom-like fragments. The hole was stopped before reaching the targeted porphyry when the driller reported the rods were binding in the hole and any rod loss would be charged against the program.

## Economic Results

Only occasional short, very sparse disseminations of pyrite were present.

## Assays

No significant gold assays were obtained.

## HOLES NO. JC-943 AND JC-944

A single 475 ft . hole was planned to test for the presence of the gold-bearing porphyry (along the southern edge of the Mag low feature) where it contacts the ultramafic Mag high ring. After 50 ft . of casing and 89 ft . of altered feldspar porphyry hole No. JC-943 entered into and ended in 111 of diabase. The drill was turned and coring continued to the north intersecting altered porphyry to the end of the hole at 276 ft . in JC-944.

The cored porphyry in both holes contains up to $1 \%$ disseminated pyrite throughout. Samples for assay were taken from silicified sections of the porphyry. These were generally narrow sections ranging from 1.5 ft . to 6 ft . except for the last 40 ft . of $\mathrm{JC}-944$.

## Assays

Four assays of $14,17,21$ and 55 PPB Au . were obtained in silicified porphyry at 4 different locations between 56 ft . and 139 ft . in JC-943. Three assays of 24,31 and 65 PPB Au. were obtained in silicified porphyry at 3 different locations between 158' and 251' in JC944.

## Economic Results of 1995 Project

- The highest gold assays in the 1995 project were obtained in a 17 ft . wide intersection of altered felsic tuff in MK-938 ( 175 to 2026 PPB range). Also in MK-938, other narrow felsic tuff sections gave assays of 24,31 and 82 PPB Au. and an 8.5 ft . feldspar porphyry dike in the same hole gave 27 PPB Au.
- Very sparsely disseminated pyrite in silicified sections of altered porphyry in JC-943 and JC-944 gave anomalous gold values ranging from 14 to 65 PPB. These two holes are believed to be in the southern edge and tend to support the possible existence of the large porphyry body.
- MK-936 and MK-937 failed to confirm the presence of shear zones adjacent to the porphyry body. Both holes are believed to have been collared too far to the north. MK-938 did not intersect a recognized shear zone and was possibly terminated before encountering it.

Silicified sections of the porphyry body contain anomalous gold values.

## RECOMMENDATIONS

- Thorough, closely spaced I.P./resistivity and Mag surveys are required over the porphyry body to identify drill targets.
- The shear zone adjacent to and north of the porphyry body remains worthy of further exploration (as are zones of weakness like the gold-bearing altered felsic tuff in MK938).


## CONCLUSION

This report is believed to fulfil the requirements of the final O.P.A.P. submission and is hereby submitted to procure the final $\$ 5,000.00$ payments for each of the two Grants \# OP95-068 and \#OP 95-067.

## PROGRAM COST EXPENDITURES

Drill footage expenditures - $1745 \mathrm{ft.0} \mathrm{\$ 10.32/ft}. \rightarrow$ \$18,008.40
Cost of "extras":
a. 50 ft . lost casing e $\$ 11.20 / \mathrm{ft}=\$ 560.00$
b. excess drill mud (MK-937) $=\$ 400.00$
c. excess labour (MK-937) $=\frac{\$ 150.00}{\$ 1110.00}$
$\$ 1,110.00$
Mobilize/Demobilize $=\$ 1,500.00 \quad \rightarrow$
$\$ 1,500.00$
TOTAL DRILLING COSTS =
$\$ 20,618.40$
ASSAYS--66 gold assays e $\$ 10.50$ ea. + G.S.T. $=$
$\$ 741.51$

COST OF 1995 PROGRAMS =
$\$ 21,359.91$

The above total program cost has been divided into two equal parts of $\$ 10,679.95$ for the final submission form for each of the two grants, used in this reported program.

> g.E. Morale


August 21, 1995

MINING RECORDER
Porcupine Mining Division
Timmins, Ontario

Dear Sir,
This is to certify that Matt Kangas and Jim Croxall are 50/50 partners in the 91 claim ( 93 units) property in Price, Ogden and Thorneloe Townships listed on the attached sheet.

M. Kangas


## PRICE/OGDEN/THORNELOE PROPERTY CLAIM LIST

| $P$ | 1159645 |
| :--- | :--- |
| $P$ | 1033734 |
| $P$ | 1033736 |
| $P$ | 1033737 |
| $P$ | 1126672 |
| $P$ | 998246 |
| $P$ | 998247 |
| $P$ | 998248 |
| $P$ | 998249 |
| $P$ | 998250 |
| $P$ | 998251 |
| $P$ | 998252 |
| $P$ | 998253 |
| $P$ | 998254 |
| $P$ | 998255 |
| $P$ | 998256 |
| $P$ | 998257 |
| $P$ | 998258 |
| $P$ | 998259 |
| $P$ | 998260 |
| $P$ | 998261 |
| $P$ | 998262 |
| $P$ | 998263 |
| $P$ | 998264 |
| $P$ | 998265 |
| $P$ | 998266 |
| $P$ | 998267 |
| $P$ | 998268 |
| $P$ | 998269 |
| $P$ | 998017 |



TOTAL NUMBER OF CLAIMS 91 (93 units)






Ministry of
Northern Development and Mines

# Summary of Field Work and Other Activities 1994 

Ontario Geological Survey

Miscellaneous Paper 163
edited by C.L. Baker, B.O. Dressler, H.A.F. de Souza, J.A. Fyon, C.A. Kaszycki, D.G. Laderoute, G. Merlino, J.W. Newsome, L. Owsiacki, J.M. Richardson, P.C. Thurston and N. Wood

## 28. Timmins Resident Geologist District

## L Luhta

Timmins Resident Geologist's Office, Mineral Deposits and Field Services Section, Ontario Geological Survey

## INTRODUCTION

On May 26, 1994, the Timmins Resident Geologist visited a surface diamond-drill site on a property, in the northwest corner of Price Township (latitude $48^{\circ} 21^{\prime} 40^{\prime \prime} \mathrm{N}$, longitude $81^{\circ} 2730^{\prime \prime} \mathrm{W}$ ). The property is held jointly by J. Croxall and M. Kangas. The drill hole, which reached a depth of 951 feet, was funded by an OPAP grant to Jim Croxall. The hole was drilled to test for the presence of a carbonatite complex. The drill
target was a circular magnetic low surrounded by highly magnetic outer ring, identified previously as a fenitized (alkali-altered) ultramafic rock. Following completion of the hole, the core was logged on July 6.

## LOCATION AND ACCESS

The diamond-drill hole was collared on mining claim P.889262, in the extreme northwest comer of Price Township. The claim is part of a 90 claim propenty


Flgure 28.1. Location of the Timmins Resident Geologist's District.
held by Kangas and Croxall. The drill site was located south of Timmins, along the Dalton Road, east and parallel to the Mattagami River. Approximately 1.8 km past the bridge over the Grassy River, a narrow road branches east, off the Dalton Road. The diamond-drill was set up 100 m down this road, on the south side.

## GENERAL GEOLOGY

The geology in the extreme northwest corner of Price Township consists of unsubdivided metasedimentary rocks of the Hoyle Assemblage just to the west of the north striking Mattagami River Fault (Pyke 1982; Thurston et al. 1991). To the south, calc-alkalic mafic rocks and iron formations of the Bartlett Assemblage occur. To the east, across the Mattagami River Fault, pillowed and amphibolitized tholeiitic metavolcanic rocks of the Geikie Assemblage crop out. The eaststriking Porcupine-Destor deformation zone (PDDZ) is located 5 km to the north, abutting against the Mattagami River Fault. Although the westerly extension of the PDDZ has not been accurately traced, the PDDZ appears to be offset to the south by the Mattagami River Fault. This western segment of the PDDZ is interpreted as extending westward close to the contact between the metasedimentary Hoyle and metavolcanic Bartlett assemblages.

## PREVIOUS WORK

Exploration work on the property has been documented since 1946 (Assessment Files, Timmins Resident Geologist's Office). A total of 6 companies and 3 prospecting groups completed geophysical surveys, geological mapping, trenching, stripping and diamond drilling. M. Kangas and J. Croxall, the current owners of the property, have actively explored the property since 1986. From 1987 to 1990, the property was optioned to the Chevron Minerals Canada Lid./Umex Inc. Joint Venture. The joint venture partners conducted an integrated gold exploration program which included the drilling of 4 surface diamond-drill holes. In 1993, with OPAP funding, Kangas and Croxall completed 3 surface diamond-drill holes. Two holes were drilled to investigate 2 untested induced polarization (IP) anomalies and the other hole tested a soil gold geochemical anomaly. These targets were previously outlined by the joint venture partners.

## PROPERTY GEOLOGY

The property is underlain by steeply-dipping, intensely deformed and altered metavolcanic and metasedimentary rock (Assessment Files, Timmins Resident Geologist's Office). In the southern part of the property, chert-magnetite iron formations are
overlain to the north by a sequence of komatiitic, tholeiitic and calc-alkalic metavolcanic rocks. In the northern part of the property, a horseshoe-shaped magnetic anomaly was proven to be a fenitized ultramafic unit, by surface diamond drilling. Further to the north, there is a band of metasedimentary rock in contact with calc-alkalic metavolcanic rock. Two northerly drilled holes of the Chevron/Umex Joint Venture passed through the outer northern contact of the fenitized ultramafic and intersected gold vălues in highly fractured and altered metasedimentary rocks immediately to the north $(2.27 \mathrm{~g} /$ t over 1.5 m and $2.88 \mathrm{~g} /$ tover 0.6 m$)$.

The fenitized ultramafic unit was initially identified by D. Mullen, project geologist for the Chevron/ Umex Joint Venture. The rock was examined by $K$. Barron, then a graduate student at the University of Westem Ontario who reported to Kangas and Croxall that the fenitization manifests itself as bright blue veins and diffuse zones of alkalic amphibole or bright green zones of alkalic pyroxene. This amphibole was identified as crossite or magnesio-riebeckite. The pyroxene is aegerine. In many places, there are yellow-brown rounded gamets, particularly in the aegerine rich sections. These garnets are melanite (titanium andradite gamets).

## CROXALL 1994 PROJECT

The core of the highly magnetic ring of fenetized ultramafic rocks displays a low magnetic susceptibility. The alteration of the ultramafic rocks is typical of that developed close to, or in contact with, carbonatite intrusions. A surface diamond-drill hole was drilled by J. Croxall with OPAP funding southwards at a dip of $-47^{\circ}$ to test for a possible carbonatite. Down the hole from 0 to 91 feet is overburden, from 91 to 150 feet is black, fine-grained, serpentinized komatiite flows, from 156 feet to 570 feet is the zone of fenetization with blue and green zones and brownish spots. Quartz feldspar porphyry dikes up to 5 feet wide intrude this zone. Two talc-chlorite shear zones occur between 515 and 520 feet and 536 and 551 feet. Between 570 and 641 feet, a contact zone exists consisting of pink quartz feldspar porphyry, fine-grained quartz tourmaline stringers and xenoliths of talc carbonate ultramafic rock. From 641 feet to 951 feet, the end of the hole, a light pink to red coloured hematized, quartz feldspar porphyry was intersected with a few narrow zones of grey porphyry. Generally less than $1 \%$ disseminated pyrite occurs throughout the whole porphyry zone. The feldspar phenocrysts (presumably albite) within the porphyry are generally white and range from 2 to 5 mm in diameter. The fine-grained groundmass is hematized. Most of the core was assayed for gold. The ultramafic rocks assayed nil and the porphyry relurned assays
from 0.01 to $0.20 \mathrm{~g} / \mathrm{t} \mathrm{Au}$. One 4.5 foot section between 828 and 832.5 feet down the hole consisted of up to $70 \%$ quartz and up to $3 \%$ disseminated pyrite assayed $2.32 \mathrm{~g} / \mathrm{Au}$.

## CONCLUSION

The magnetic low surrounded by the fenetized ultramafic ring has been identified as an altered quartz feldspar porphyry. As defined by a geophysical survey, this body is 3300 feet long and 1000 feet wide. It is similar to the porphyry bodies which were intersected by Placer Dome in Bristol Township, 5 km to the north west. These porphyry bodies in Bristol Township have been compared to the porphyry bodies at the Hemlo gold deposit and at the McIntyre Mine (Luhta et
al. 1991). This porphyry body should be further explored for possible economic gold mineralization which may be found within it and at its contacts with the surrounding ultramafic rocks. Economic gold mineralization may also occur along the outside contacts of the ultramafic ring.

## REFERENCES

Luhta, L.E. Sangstex, P.J. and Draper, D.M. 1991. Resident Ceologist's Distriat - 1991; in Report of Activities 1991, Resident Geologists, Ontanio Geological Survey Miscellaneous Paper 158, p.253-256.

Pyke, D.R. 1982. Geology of the Timmins Area, District of Coctrane; Ontario Geological Survey, Repori 219.

Thurston, P.C. Williams, H.R., Sutcliffe, R.H. and Sior, G.M. 1991, Ontario Geological Survey, Geology of Onlario, Special Volume 4, Part 1.


Established 1928

# Swastika Laboratories 

A Division of TSL/Assayers Inc.
Assaying - Consulting - Representation

## Assay Certificate

5W-2888-RA1

Compeny: J. CROXALL<br>Date: JUL-13-95<br>Project:<br>ana: J. Croxall

We hereby certify the following Assay of 31 Split Core samples submitted JUL-06-95 by .

P.O. Box 10, Swastika, Ontario P0K IT0

Telephone (705) 642-3244 FAX (705)642-3300

Established 1928

## Swastika Laboratories

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Assaying - Consulting - Representation
Page 1 of 2
Geochemical Analysis Certificate
5W-3393-RG1
Company: J. CROXALL
Date: AUG-28-95
Project:
Atm: J. Croxall
We hereby certify the following Geochemical Analysis of 35 Core samples submitted AUG-23-95 by

| Sample Pra | Au | Au Check |
| :---: | :---: | :---: |
| Number Na | PPB | PPB |
| $6651-41$ | 3 | - |
| $6652-38$ | 55 | 41 |
| 6653-43 | 17 | - |
| 6654-44 | 14 | - |
| 6655-39 | Ni 1 | - |
| 6656-40 | Nil | - |
| 6657-42 | 21 | - |
| 6658-45 | Ni | - |
| 6659-46 | NiI | - |
| 6660-47 | 31 | - |
| $6661-48$ | 65 | - |
| 6662-49 | 10 | - |
| 6663-50 | 24 | - |
| 6664-51 | 7 | - |
| 6665-518 | Ni ! | Ni 1 |
| 6666-52 | 7 | - |
| 6667-31 | Ni 1 | - |
| 6668-32 | Ni 1 | - |
| 6669-33 | 3 | - |
| 6670-30 | $\mathrm{Ni}!$ | - |
| 6671-35 | 7 | - |
| 6672-34 | 3 | - |
| 6673-36 | NiI | - |
| 6674-37 | 7 | - |
| 6675-53 | 31 | - |
| 6676-54 | 24 | - |
| 6677-55 | 3 | 10 |
| 6678-56 | NiI | - |
| 6679-57 | NiI | - |
| 6680-58 | 82 |  |

Certified by

P.O. Box 10, Swastika, Ontario P0K 1 T0

Telephone (705) 642-3244
FAX (705)642-3300

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Assaying - Consulting - Representation
Page 2 of 2
Geochemical Analysis Certificate 5W-3393-RG1

Company: J. CROXALL
Date: AUG-28-95
Project:
Atan: J. Croxall
We hereby certify the following Geochemical Analysis of 35 Core samples submitted AUG-23-95 by .
Sample
Number
$6681-59$
$6682-60$

P.O. Box 10, Swastika, Ontario P0K 1T0

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6}
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Swastika Laboratories P.O. Box 10

Swastika, Ontario
INVOICE
POK 1 TO
NA:: $\quad 33720$
SOLD TO:
J. Croxall

152 Brock Avenue,
Timmins, Ontario P4N 7P1

GST Number: R132862640
ITEMNO.
QUANTITY UNIT
DESCRIPTION

| G P | UNIT PRICE | AMOUNT |
| :---: | :---: | :---: |
| 3 | 10.500 | 325.50 |
|  |  | 22.79 |

## COMMENTS:

TOTAL 》
Net 30 Days



HOLE NO. JC-942
LENGTH of HOLE $=213$ fr (64.9M)
DIRECTION OF HOLE $=A Z .155^{\circ}$ DIP OF HOLE $=-45^{\circ} \mathrm{S}$ CORE DIAMETER $=13 /{ }^{\prime \prime}$


$$
\begin{aligned}
& \text { DO HOLENO JC- } 942 \\
& \begin{array}{ll}
\text { DD HOLENO } \\
\text { DIP SUUTH } \\
155^{\circ} \mathrm{AZ} \text { OEARING }
\end{array} \\
& \text { CL.NO.P. } 849065 \text { CORE } \phi=13 / \text { " }^{\prime \prime} \\
& \text { Page No. } 1 \text { of } 1
\end{aligned}
$$





$$
\begin{aligned}
& \text { OD HOLENO } J C-943 \\
& \text { OP }-4 S^{\circ} S
\end{aligned}
$$

CLAIM No. P. 849066 CORE $\phi-13 / 16$
CORE STOREO AT M. KANGHS COTTAGF, KAMISCOTIA

$\%$

$$
\begin{aligned}
& \text { D.D HOLENO } \bar{N} \quad-944 \\
& \text { DIP }-45^{\circ} \overline{A Z} \text { BEARING }
\end{aligned}
$$

CLAIMNO.P. 849066 CORE $D-13 / 16^{\prime \prime}$ DRILL CUNTRACTOR - LARRY J.SALO, CONNAUGHT
 CORE STORGO AT M. KANGAS COTTACE-KAMISCOTM


DRILL hole cross section facing east

$$
\begin{aligned}
& \xlongequal[\text { HOLES Jj. } 943 \text { : Jj. } 944]{\text { CLAM No. P. } 849066 \text { SCALE:/" }}=50^{\prime} \\
& \text { Ar. JC943-180 } \\
& \text { AZ JC 944-0 } \\
& \rightarrow \operatorname{VFT}_{F} K \\
& \text { DiP" } \quad-\left(-45^{\circ} S^{\circ}\right) \\
& \text { DIP " }-\left(-45^{\circ} \mathrm{N}\right) \\
& \leftrightarrow 100 \mathrm{FT} \rightarrow 1
\end{aligned}
$$



DRILL HOLE PLAN MAP

SCALE: /CM $=50 \mathrm{M}$.
HOLE No. MK- 937


LENGTH OF HOLE = 354 FT (108M.)
DIRECTION OF HOLE = AZ Q $Q^{\circ}$
DIP OF HOLE $=-45^{\circ} \mathrm{N}$
CORE DIAMETER $=13 / 8^{\prime \prime}$



DRILL HOLE CROSS SECTION FACING EAST

$$
\frac{\text { HOLE NO. MK -937 }}{\substack{\left.\left(1 . N_{0} 871790\right) \text { SCALE: } 1^{\prime \prime}=\\ A Z-0^{\circ} \text { DIP- }-45^{\circ N}\right)}}
$$



SCALE: / CM $=50 \mathrm{M}$.


HOLE No. MK-938


$$
\text { LENGTH OF HOLE }=406 \mathrm{FI}(123.7 \mathrm{M})
$$

DIRECTION OF HOLE $=A Z . \theta^{\circ}$

$$
\text { DIP OF HOLE }=-50^{\circ} \mathrm{N} .
$$

CORE DIAMETER $=13 / 8^{\prime \prime}$


DRILL HOLE CROSS SECTION FACING EAST
HOLE NO. MK-938
(CL.NO.849068) SCALE:IIN=40 FT

$$
\longleftrightarrow 100^{\prime} \longrightarrow
$$


00. Hole no MK- 938 (Conto)

LENGTH $\qquad$
VERT. DEPTH OVBON.
DIP $\qquad$ bearing
Page No $\qquad$
$\qquad$
FINISHED $\qquad$

D.O. HOLE NO MK -938 (CONT'D)

LENGTH $\qquad$

DIP $\qquad$
$\qquad$
Page No. $30 \neq 4$ $\qquad$
FINISHED $\qquad$
 and occasional blebs
$\qquad$
VERT. DEPTH OVBDN. $\qquad$
Page No. $\qquad$ 4 0F4

BEGAN $\qquad$
FINISHED $\qquad$



DRILL HOLE CROSS SECTION FACING EAST



DOHOLLN MK-936(CONT'D)
DIP.

LENGTH
VERT. DEPTH OVBDN
Page No. $Z$ of 2

BEGAN .
FINISHED
$\qquad$


Report of Work Conducted After Recording Claim

Mining Act

Personal information collected on this form is obtained under the auth srity of the Mi this collection should be directed to the Provincial Manager, Mining Lands, Mini Sudbury. Ontario. P3E 6A5, telephone (705) 670-7264.

Instructions: - Please type or print and submit in duplicate.


42A06SW0008 N9560-00388 PRICE

- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.


Work Performed (Check One Work Group Only)


Total Assessment Work Claimed on the Attached Statement of Costs $\$ \ldots 19,118+1,500=20,618$
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)

(attach a schedule if necessary)
Certification of Beneficial Interest - See Note No. 1 on reverse side


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.
Name and Address of Person Certhying
T.ECroxall i Matticancas

Totepone No.
$267.4314 / 267-6175$
For Office Use Only





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 priorize the deletion of credits. Please mark ( - ) one of the following:

1. $\square$ Credits are to be cut back starting with the claim listed last, working backwards.
2. $\square$ Credits are to be cut back equally over all claims contained in this report of work.
3. $\square$ Credits are to be cut back as priorized 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:

WORK DISTRIBUTION BY CLAIM.

$$
\text { P. } 871790
$$

DRILLING: MK-936-246'

$$
M K-937-354
$$

$$
\text { TOTAL }=600 @ 10^{32} / \mathrm{FT}=6192
$$

ASSAYING: SAUASSAYSC $10 \cdot 50+G S T C T \%=101$
EXTRAS : 50' LOST CASING $11.20 / F T=560$

$$
\text { EXCESS DRUM MUD } \quad-400
$$

$$
\text { EXCESS RECOUERY LABOUR } \quad=150
$$

(ALL MK-937) TOTAL $=57,403(4)$
PRORATED PORTION OF MOBELOEMOBE ${ }^{*}=\frac{\$ 573}{\frac{7976}{17}}$ (38.2\%*i500)
P. 849068

DRILLING:MK-938=406'@10.32IFT $=4190$
ASSAYING: 39 AU ASSAYS C $10 \cdot 50+G S T$ e $1 \%=438$

$$
\text { TOTAL }=4,628 \text { B }
$$

PRORATED PORTION OF MOBE/OFMOBE $\begin{aligned} & =\frac{328}{4,956}(21.9 \% \times 1500)\end{aligned}$
P. 849065

$$
\begin{array}{r}
\text { DRILLING:U:C. }-942=213 \mathrm{e} 10 \cdot 32 \mathrm{FF}=2198 \\
\text { ASSAYING: } 3 \text { AU. ASSAYS } e^{* 10.50}+\text { ESTe } \%=33 \\
\text { TOTAL }=2,231 \text { (C) }
\end{array}
$$

PRORATED PORTION OFMOBE OEMOBE $=\frac{173}{2404}$ ( $11.5 \% \times 1500$ )

$$
P .849066
$$

DRILLING: $5 C-943=250^{\circ}$

$$
J C-944=276^{\prime}
$$

$$
\text { Form }=526^{\prime} e^{*} 10.32 / \mathrm{fI}=5428
$$

$$
\text { ASSAY ING: } 15 \text { AU ASSAYS } 10 \text { So ESTe\% }=168
$$

$$
\text { TOTAL }=55960
$$

PRORATED PORTION OF MOBE/ORMOBE $=\frac{427}{6,023}(28.4 \% \times 1500)$

$$
\begin{aligned}
\text { TOTAL COST ALL DRILLING } & =19,118 \\
\text { TOTAL COST ALL ASSAYING } & =141 \\
\text { GRAND TOTAL } & =19,859(A+B+C+O) \\
& =1,500 \\
& \approx 21,359 \text { TOTAL ASSESSMENT }
\end{aligned}
$$

* PRORATIONING MOBELOEMOBE:

$$
\begin{aligned}
\text { P. } 871790-7302 \div 19,118 & =38.2 \% \\
\text { P. } 849068-4190 \div 19,118 & =21.9 \% \\
\text { P. } 849065-2198 \div 19,118 & =11.5 \% \\
\text { P. } 849066-5428 \div 19,118 & =\frac{28.4 \%}{100.0 \%}
\end{aligned}
$$



