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REPORT
ON THE
OPEEPEESWAY LAKE
GOLD-BASE METALS PROPERTY
HUFFMAN TOWNSHIP
PORCUPINE MINING DIVISION
ONTARIO

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Toronto, Ontario

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Geol. No. 2.1310

SUMMARY

A program of prospecting, geological mapping and data compilation along with petrographic and chemical studies has been completed on a 17 claim property staked for its gold and base metals potential on the East Arm of Opeepeesway Lake in the Swayze greenstone belt of northeastern Ontario.

Initial interest in the property area was sparked by the reported presence of high gold and base metal values associated with the Jerome Porphyry and adjoining sediments.

The objectives of the present program were to locate new mineral showings and to more fully understand the geological setting on the property such that the known mineralization could be put in its proper context.

No major new prospecting discoveries were made, a testament to the very thorough efforts of previous workers and a general scarcity of outcrop, although two relatively modest copper occurrences were found. One of these is in the area of known copper mineralization in the east-central portion of the property. The second, occurring in highly altered porphyry on the point of land on claim 1170407, contains copper values in 0.20% range and may represent a new copper zone that should definitely be further investigated.

Limited re-sampling of some of the known surface showings indicates that previous high grade gold values (to 1.74 oz/ton) must have been in very selected samples as they were not repeated by my work nor by previous drilling.

Geologically it is concluded that the Jerome Porphyry is a complex layered body comprising subvolcanic felsic porphyry intrusives, their pyroclastic equivalents and various sedimentary units. The rocks immediately to the north, previously mapped as clastic sediments, have a definite volcanic aspect and grade to the north into mafic pyroclastics with a local felsic pyroclastic unit present.

The property is sited on a major regional zone of intense deformation and alteration which may, in turn, be an extension to the west of one of the major "Breaks" of the central Abitibi.

There is considerable potential to find additional gold and/or base metal mineralization of the Jerome Mine type associated with shear zones on the property. Obvious target areas include those in the original Gaffney/Smith showing area and at the "Line 84+65E" showing (both gold-silver-lead-zinc), the gold-bearing quartz zones which outcrop in the area of line 64+65E and the gold-silver bearing carbonate zone in porphyry which outcrops in the area of line 76E just south of the baseline. A previous hole on this latter zone returned 0.11 oz/ton gold, 3.84 oz/ton silver over 7.0 feet. Previous holes on the Gaffney zone returned up to 0.21 oz/ton gold, 4.39 oz/ton silver, 4.97% Pb and 3.78% Zn over 4.0 feet. A 1961 hole on the adjoining Smith gold-quartz zone returned 0.24 oz/ton gold over 6.5 ft within a 10 foot quartz vein. A previous grab sample from the showing in the vicinity of line 84+65E, 4N, returned 0.07 oz/ton gold, 5.04 oz/ton silver, 11.5% Pb, 6.5% Zn.

In light of the recognition that the Jerome Porphyry has distinct pyroclastic phases, the above base metal mineralization may be indicative of possibilities for volcanogenic massive sulphide deposits. The known base metal mineralization may represent strongly deformed primary sulphides.

Perhaps of greatest intrigue, there is interpreted to be a relatively large scale gold-copper system with associated anhydrite and elevated Ba levels present in porphyry rocks in the east-central portion of the property. Virtually no copper assaying was carried out by previous workers although there are tantalizing descriptions of chalcopyrite and bornite in some of the holes. The Timmins office of the MNDM is presently assisting the author in recovering this core so that additional assaying can be carried out.

It is concluded that the Opeepeesway property offers good exploration potential for precious and base metals in a number of different exploration scenarios and that further work is warranted. A two phase program comprising ground geophysical surveys and diamond drilling is proposed at a cost of $275,500.

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Table of Contents

List of Figures

1. INTRODUCTION

Interest in the subject Opeepeesway Lake property revolves around the indicated presence of numerous gold and gold-base metal occurrences both as surface showings and in diamond drill associated with the so-called Jerome Porphyry.

There were two exploration scenarios of particular interest as follows:

a) the possibility that the Jerome Porphyry was, in whole or in part, a felsic pyroclastic with the attendant possibilities for classical volcanogenic massive sulphide (VMS) deposits and;

b) the possibility for large scale, potentially bulk mineable copper-gold, porphyry-associated deposits based on the indicated presence of persistent copper sulphide mineralization with associated low gold values in previous drilling.

There were also indicated to be good exploration possibilities for structurally (shear) controlled gold deposits of the Jerome Mine type on the property.

An important objective of the work reported on herein was to try and understand the geological setting on the property with respect to a) and b) above through a program of detailed geological mapping supplemented by thin section and chemical work as required. As important was the thorough prospecting of the claim group in the hopes of finding additional mineralization at surface.

2.0 LOCATION AND ACCESS

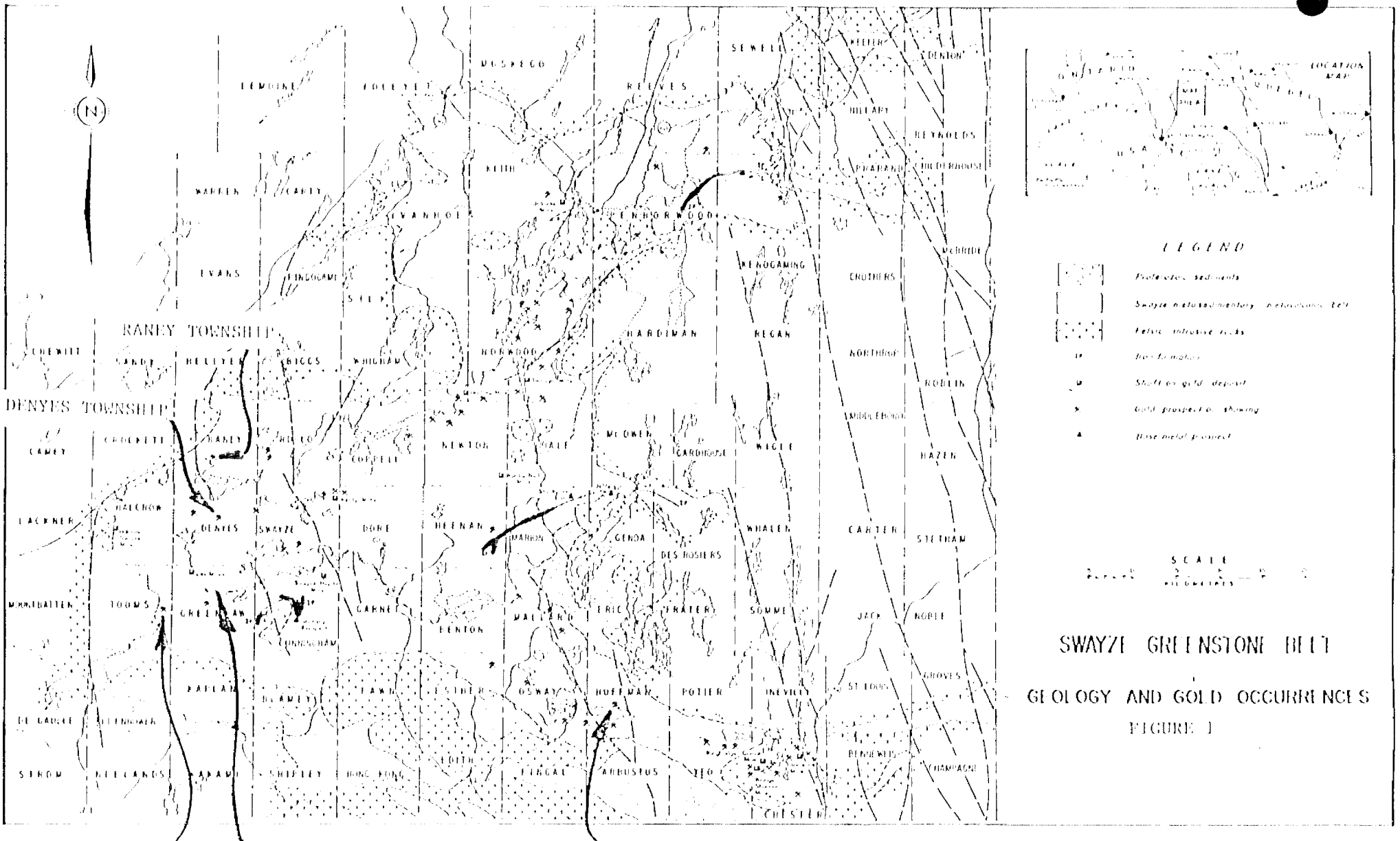
The property is located on the north side of the east arm of Opeepeesway Lake in west-central Huffman Township, Porcupine Mining Division, Northeastern Ontario per Figure 1 and the location map inset on the map to accompany this report. The property is within NTS area 41-0-9 and is centred at 82° 11' W. Long, 47° 37' N Lat.

The claims are accessed via the Ramsey-Sultan road, a major logging road which turns west off the Timmins-Sudbury highway, No. 144, at a point 20 miles south of Gogama. Approximately 25 miles west of the junction, a gravel road leads north to the Jerome Mine property, a distance of almost nine miles. It is then a short boat or snowmobile ride down Opeepeesway Lake to the present property.

Previous operators on the property (Osway Explorations Ltd.) constructed a bush road leading from the property west to the Rush Lake gravel road which in turn leads south to the Sultan Road. Osway also constructed an excellent network of bush roads across the present claims during their exploration work.

Of particular interest in terms of access, E.B. Eddy Forest Products Ltd. is presently building access roads off the Rush Lake road into the central portion of Huffman Township as a prelude to logging operations in this area. It is anticipated that it will be possible to drive to the north-central portion of the property as early as this winter. This ease of access will greatly facilitate ongoing exploration of the claims.

It should also be noted that there is a small but well equipped trappers camp on claim 1176306 that is available for use.


RANEY TOWNSHIP
DENYES TOWNSHIP
TOOMS TOWNSHIP
GREENLAW TOWNSHIP
HUFFMAN TOWNSHIP
LEGEND
Proterozoic sediments
Swayze metasedimentary - metavolcanic belt
Felsic intrusive rocks
Iron formation
Shaft on gold deposit
Gold prospect or showing
Base metal prospect
SCALE
LOCATION MAP
SWAYZE GREENSTONE BELT
GEOLOGY AND GOLD OCCURRENCES
FIGURE 1

3.0 PROPERTY

The property totals 17 unpatented mining claims totalling 680 acres more or less numbered P1170407, P1170414 and P1176292-306 inclusive. The claims were recorded on February 11, 1991 and were subsequently transferred as to 100% to the author. The relative disposition of the claims is shown on the map at rear.

Noranda Exploration Company, Limited holds the adjoining ground on either side of the present property.

4.0 PREVIOUS WORK

There has been a great deal of previous work carried out on these claims and a considerable amount of time was spent in compiling and analyzing the efforts of past explorationists. The results of this are summarized following with the assessment file number of the Timmins office of the MNDM indicated beside each company where applicable. Significant aspects of this previous work are presented on the accompanying map including diamond drill holes, EM conductors and sampling results.

1. Jess-Mac Gold Mines Ltd., 1949-1951 (T-2134)

This company carried out some form of ground geophysical surveying and then did extensive drilling on a base-precious metals occurrence located north of the shore of Opeepeesway Lake in the south part of present claim 1176297.

Mr. W. S. Savage, Resident Geologist for the area at this time, reported as follows in February of 1952:

> "In 1950 and 1951 extensive diamond drilling was done on claim S.54293 which straddles the north shore of the lake on the east boundary of the property. The geophysical survey showed two narrow east-west anomalies on this claim about 250 feet apart in a drift covered area. The north anomaly overlies a quartz vein trending east-west which was exposed in a series of north-south trenches by Wm. Smith, a former owner of the property. The south anomaly may be indicative of a narrow zone of lead-zinc sulphides with a low gold-silver content which was intersected in six of the diamond drill holes at an average vertical depth of 250 feet. The sulphides occur in fractured porphyry adjacent and approximately parallel to the south-dipping contact between the porphyry and sheared sediments to the north.
>
> A summary of the information obtained as a result of the diamond drilling is listed in the following table:

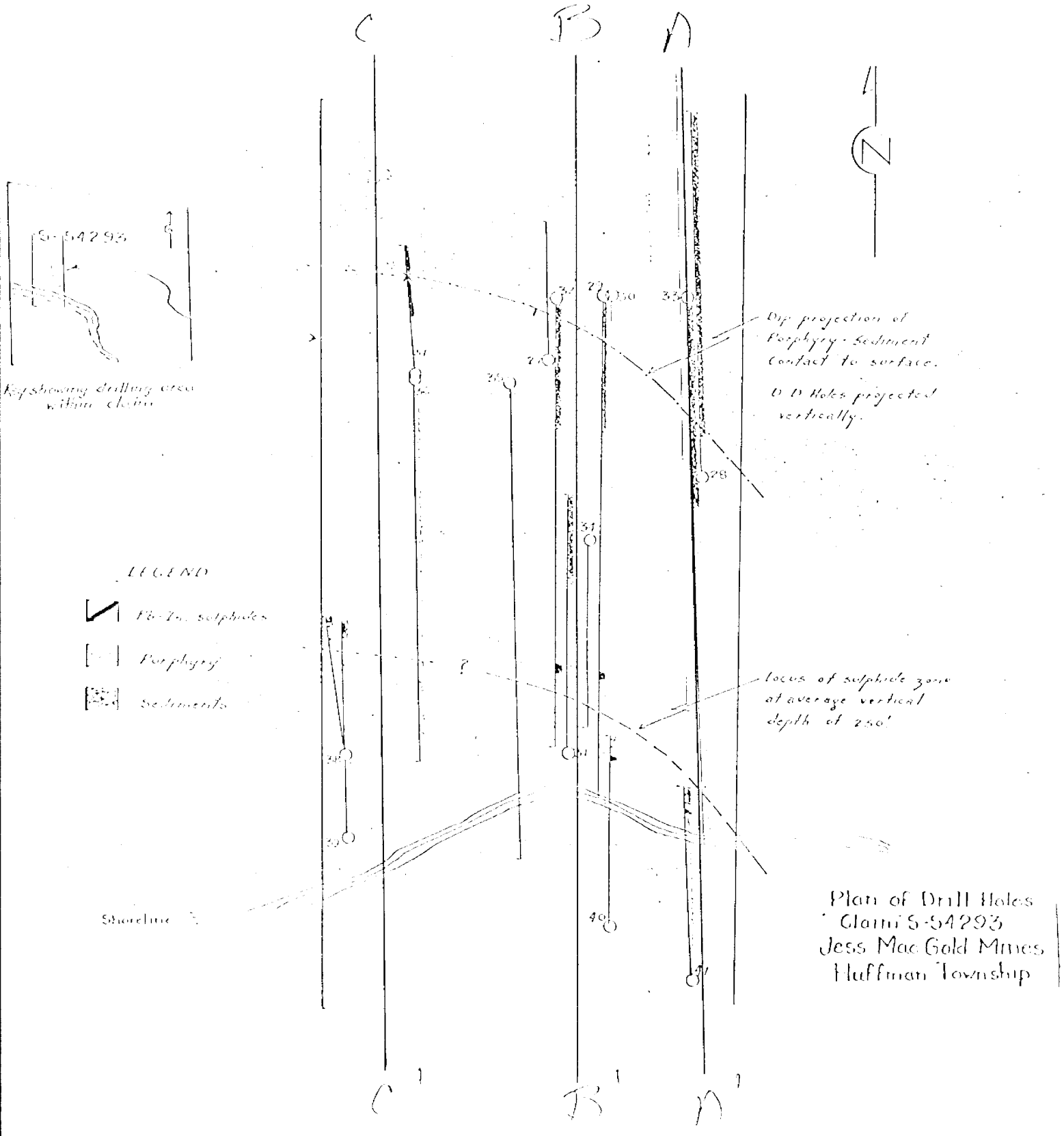
Hole No.	Contact	Dip	Footage	Best Sample	Au Ozs.	Cu %	Ag Ozs.	Pb %	Zn %
28	Por-Sed 30'	45° N	295'	78' - 90'	0.01				
29	Sed-Por 113'	46° S	398'	50' - 55'	0.15				
				303' - 307'	0.21	0.09	4.39	4.97	3.78
30	Abandoned								
31	Por-Sed 200'	60° N	298'	30' - 36'	0.07				

Hole No.	Contact	Dip	Footage	Best Sample	Au Ozs.	Cu %	Ag Ozs.	Pb %	Zn %
32	Sed-Por 107'	48° S	356'	40' - 45'	0.17				
				293' - 300'	0.04		0.32	0.09	0.28
33	Sed-Por 162'	47° S	392'	71' - 72.3'	0.02				
34	Porphyry	46° S	157'						
35	Porphyry	60° S	547'	498' - 500'	0.04				
36	Porphyry	60° S	441'	246' - 250'	0.02				
37	Por-Sed 48'	45° N	106'	83' - 84'	0.23				
38	Por-Sed 278'	75° N	305'	255' - 256.5'	0.03		0.79	3.72	2.61
39	Por-Sed 335'	70° N	364'	290' - 290.5'	0.02		1.06	1.37	3.42
40	Por-Sed 295'	70° N	309'	275' - 280'	0.02		0.51	1.03	2.55
41	Por-Sed 301'	70° N	330'	286' - 289.5'	T		0.44	0.31	0.93
42	Por-Sed 340'	72° N	345'						
43	Por-Sed 75'	72° N	DRILLING						

A copy of a plan obtained from Mr. Gaffney showing the location of the diamond drill holes on claim 54293, and three composite vertical sections prepared by the writer, accompany this report. In making up these sections, since no dip tests were available, it was necessary to assume that the holes which were collared in the sediments flattened in dip before crossing the porphyry contact. The footage drilled could have been used to much better advantage if the holes had been logged and plotted on plan and section as the drilling proceeded."

These sections and a photo reduced copy of the plan are presented following. Locations of the sections on the plan and significant assays have been added by the present author.

One comment with respect to this work is that a number of the holes were drilled down-dip, ie parallel to the porphyry-sediment contact, and therefore did not cross the mineralized contact area, eg holes 34, 36. The width of the intersection in hole 29 may also be somewhat overstated because of the direction of drilling. It would also appear that the base metal mineralization was only encountered just inside the porphyry body in the deeper holes and may not extend to surface, eg holes 27, 28, 37. Conversely, there are a number of very interesting gold



Plan of Drill Holes
Claim S-54293
Jess Mac Gold Mines
Huffman Township

(scale - 1 in. = 250 approx)

Figure 2

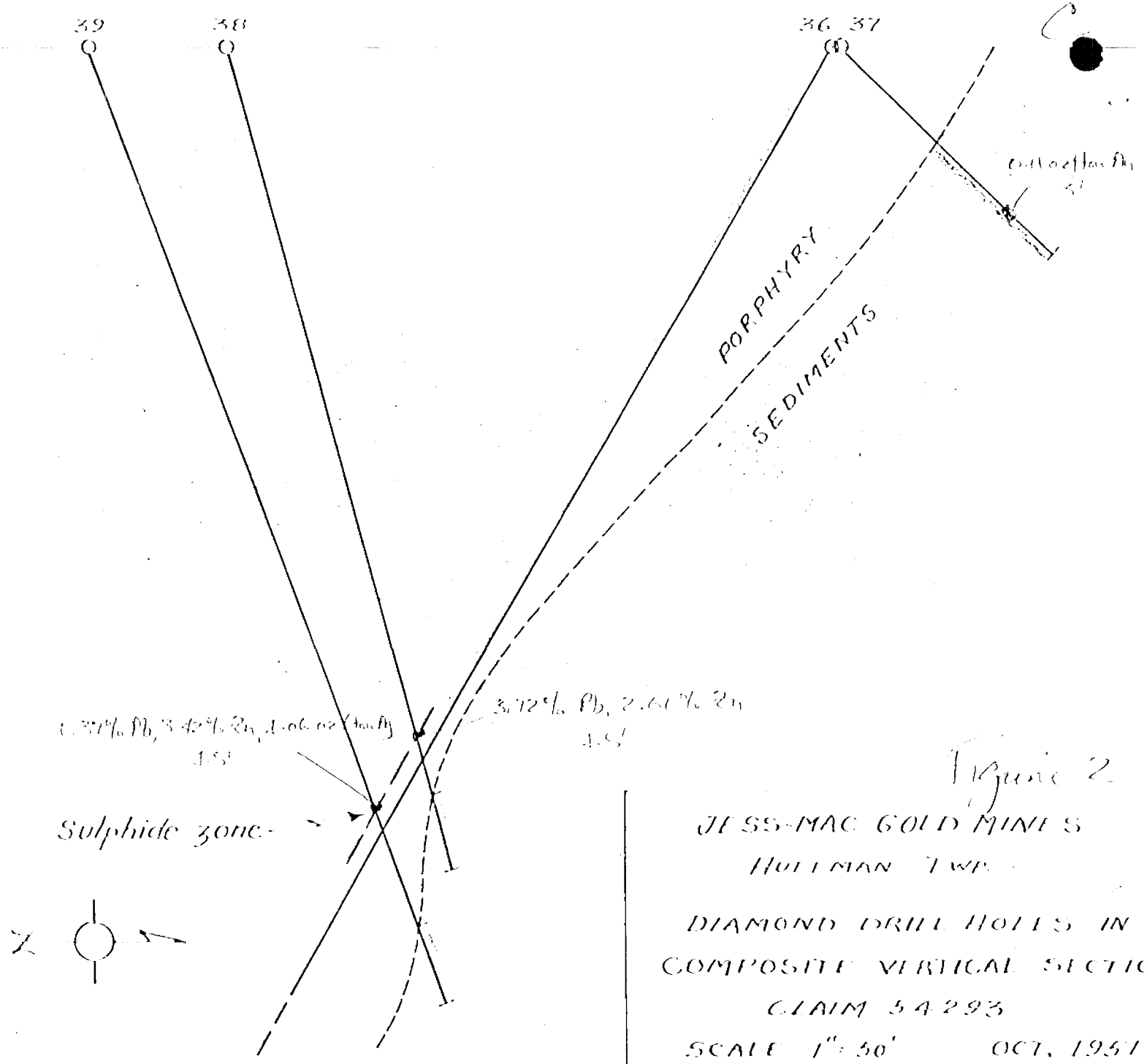
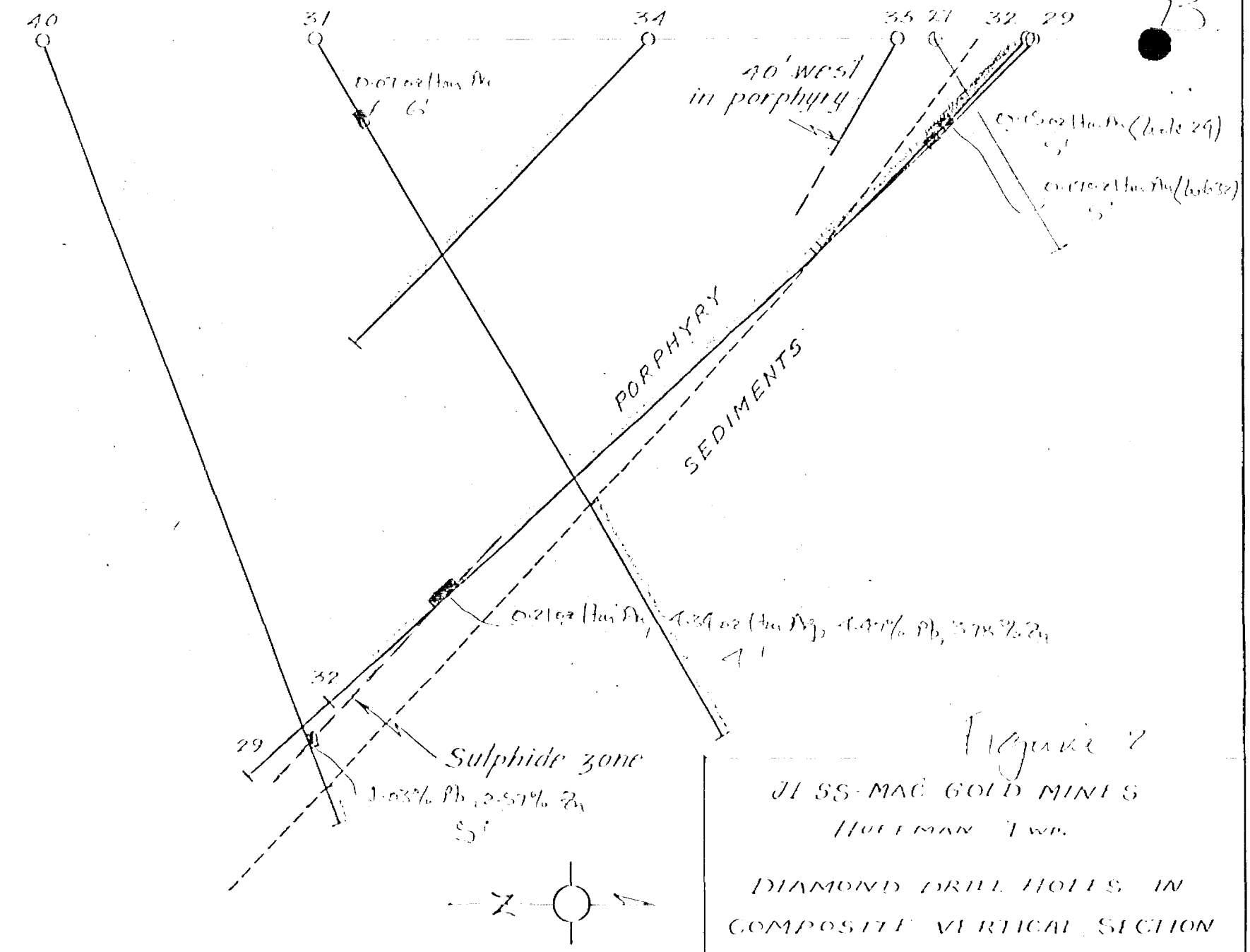


Figure 2

JESS-MAC GOLD MINES
HUTMAN TWP.

DIAMOND DRILL HOLES IN
COMPOSITE VERTICAL SECTION
CLAIM 54293
SCALE 1" = 50' OCT. 1951



South Boundary of Claim 54293

Figure 7

JESS-MAC GOLD MINES

HOFFMAN Twp.

DIAMOND DRILL HOLES IN COMPOSITE VERTICAL SECTION

CLAIM 54293

SCALE 1" = 30' OCT. 1951

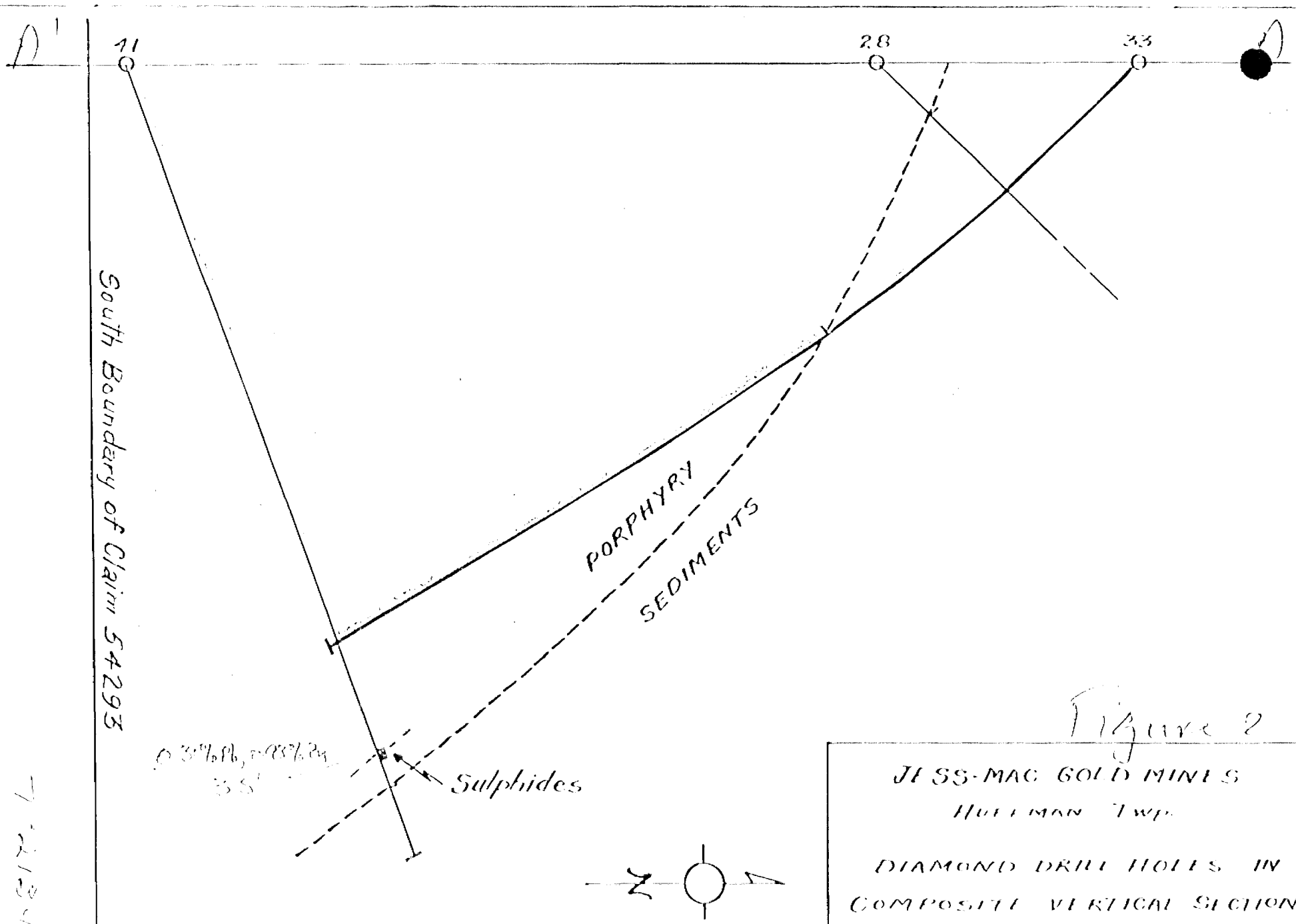


Figure 2

JESS-MAC GOLD MINES
HUTCHMAN Twp.

DIAMOND DRILL HOLES IN
COMPOSITE VERTICAL SECTION
CLAIM 54293
SCALE 1" = 30' OCT. 1951

intersections, eg holes 29, 32, 37, that were encountered only at shallower depths and in the sediments.

These gold values, however, do not appear to reflect the north, or "Smith" gold-bearing quartz vein referred to by W.S. Savage. There is no information in terms of the drilling on this latter structure although I would suspect that holes 1 to 26 were drilled on this target.

Worthington Mines Ltd., 1961-62 (T-2132)

This company carried out additional drilling in the area of the Jess-Mac showings in 1961-62 although there is very little concrete information as to their exploration program and results. The following excerpts from the Northern Miner represent the only information that the author has been able to locate:

> "October 26, 1961 - Worthington Probe Cuts Second Vein
>
> A second and parallel vein has been intersected by drilling on the Huffman Twp. property of Worthington Mines, in the Opeepeesway Lake area, northwest of Sudbury, Ont.
>
> Gold values averaging $8.40 per ton (0.24 oz.) were cut across a width of 6.5 ft. within a quartz vein with a width of 10 ft. The intersection was obtained at a depth of 41.5 ft. in a 45^0 hole.
>
> The gold-bearing vein is 215 ft. north of the sulphide zone from which an intersection across 4.0 ft. assayed 0.21 oz. gold and 4.39 ozs. silver, 4.97% lead, 3.78% zinc, 0.41% molybdenite and 0.18% antimony.
>
> Another hole has been started from the north and is expected to cut both veins, after which, the drill will be moved 100ft. to the west in an effort to trace the zones along strike. The property adjoins east of Jerome Gold Mines.
>
> June 28, 1962 - Worthington Drilling
>
> Drilling is continuing on the Huffman Twp. property of Worthington Mines in the Opeepeesway Lake area, northwest of Sudbury, Ont.
>
> The current hole has reached a depth of 630 ft. It is expected to continue to about 750 ft. to reach the projected structure cut in an earlier hole, 400 ft. to the west. The earlier hole, No. 29, intersected four feet averaging 0.21 oz. gold, 4.39 ozs. silver per ton, 4.97% lead, 3.78% zinc and 0.41% molybdenite.

> Business of the recent annual meeting in Sudbury was routine, M. J. Gaffney, secretary-treasurer, advises. All directors were re-elected".

The 1961 article provides the first solid reference to the north or Smith quartz vein (0.24 oz/ton gold over 6.5 ft.). The location of this vein to the north of the Jess-Mac base metal zone corresponds reasonably closely with that provided by W.S. Savage.

G. Swedlund (T-2135) in 1950 reported drilling 3 short holes on the point on present claim 1170407. The holes intersected both sediments and porphyry according to the drill logs. No assays were reported.

Rio Tinto Canadian Exploration Limited - Jess-Mac Option, 1966 (T-2134)

This group carried out magnetometer and vertical loop EM surveys over the south and east portions of the present property. No noteworthy EM conductors were located. The magnetic surveying disclosed a distinct ESE-WNW magnetic grain within the sediments north of the porphyry-sediment contact.

Falconbridge Nickel Mines Limited, 1971 (T-2133)

Falconbridge carried out extensive ground geophysical surveying (SS-15 VLEM, magnetics) over the entire present property in 1971.

The Falconbridge EM surveying located a number of conductors which might be of considerable interest in terms of the present property, specifically their conductor No. 1 located on claim 1176301 with an inferred eastward continuation on claim 1176292, conductor No. 4 on claim 1176295 and conductors No. 8 and 9 on claim 1176305/306, and conductor No. 6 on claim 1176298. Along with these definite, fairly well defined conductors, there are a large number of lesser anomalies including "one-line crossovers" on the present claims.

Falconbridge did not do any drilling on the present property. It is of interest to note that conductor No. 1 in particular, which was considered by the Falconbridge geophysicist to be one of the most consistent trends, has never been drill tested. (Tays, 1971) The conductor may represent a large, conformable shear zone.

Osway Explorations Ltd., 1981-83 (T-2452)

This group carried out a large multidisciplinary exploration program on a property along the north side of Opeepeesway Lake which included virtually all of the present claim group. Work began in 1981 when linecutting and ground geophysical (VLF-EM, magnetics) and geochemical surveys were completed. One

of their VLF-EM conductors is virtually coincident with the Jess-Mac zone and may be marking a westward continuation of this mineralization.

During 1982, extensive backhoe stripping and trenching were undertaken to expose and sample geophysical and geochemical anomalies and also to expose potential gold-bearing structures located by surface prospecting. An initial round of diamond drilling was then carried out in 1982 with a second drill phase in 1983.

A total of 22 holes was drilled by Osway within the confines of the present property as follows:

1982 drilling - holes 8, 9, 10, 11, 13, 14, 15, 16, 18, 20, 22, 23, 24
1983 drilling - holes 28, 30, 31, 32, 33, 36, 37, 38, 39

The location of these holes is shown on the map at rear.

The Osway program seems to have been very diligently and competently executed. Their work located numerous new mineralized showings on the present claims. The report on the 1982 exploration program by Robert J. Graham, P.Eng. (1983) makes the following comments:

"The most significant mineralized showings found in the recent exploration program are as follows:

1. The rich but small gold-silver-zinc showing in the vicinity of Line 84+65E at 44+00N. This occurs in a magnetic low area and strikes east, dipping steeply to the north in an intensive shear in what appears to be altered porphyry. The best assay from a grab sample was gold 0.07 oz per ton, silver 5.04 oz per ton, lead 11.5% and zinc 6.5%. It has been well exposed by trenching to bedrock with a backhoe, but because of the largely sheared and oxidized nature of the showing the bedrock was not blasted. The very lensy nature of the mineralization and probable faulting is evident from the lack of significant assays in OS82-15 drilled at -45° to the south, directly under the ore-grade mineralization in the trench which returned a best value of gold 0.05 oz per ton, silver 1.17 oz per ton, lead 1.23%, and zinc 0.24% over a 2.0 foot core length from 243.0-245.0 feet.

   This intersection was virtually massive pyrite with fine galena. To test the area below this drillhole, OS82-16 was drilled at -60° from the same setup, but failed to intersect any mineralization of interest. A "bracketing" hole 40 feet to the west, OS82-18 at -45° intersected minor traces of galena and sphalerite between 64.0 and 70.0 feet but the best assays from 64.0-67.0 feet were gold 0.002 oz per ton, silver 0.02 oz per ton, lead 0.15% and

zinc 0.23%. A "bracketing" hole to the east, 0S82-14, was collared 60 feet from 0S82-15, and unexpectedly cut a mineralized section between 29.0 and 39.0 feet, higher up in the hole than anticipated, probably due to transverse faulting. Quartz-carbonate veining along and across the core-axis with strong limonitic fault seams carried up to 25% pyrite and considerable pale yellow sphalerite from 35.6-37.0 feet which returned gold 0.03 oz per ton, silver 0.53 oz per ton, lead 0.47%, and zinc 0.92%.

The probable extension to the west of this new zone was exposed by a trench on line 80+65E at 1+75N, where a sample of the best mineralization assayed gold 0.05 oz per ton, silver 3.54 oz per ton, lead 0.96% and zinc 8%. This showing also lies within the magnetic "low" anomaly (near its west end) and was tested by 0S82-11 at -45° to the south, which returned a pyritic concentration with minor galena from 156.0-165.0 feet, with the best part of this from 158.0-163.0 feet assaying gold .004 oz per ton, silver 0.20 oz per ton, lead 0.15% and zinc 0.41%.

The above exploration results indicate that no further work is warranted on this particular structure, but the tenor of the two showings did justify the expense involved, and certainly suggests the possibility of a viable deposit elsewhere on this extensive claim block.

2. The strong, gold-bearing blue quartz vein system between line 28+65E at 3+00S and line 66+65E at 5+00N. This strikes astronomic east, dips steeply to the south, and is trenched in the vicinity of lines 28+65E and 64+65E, the latter being its strongest exposure with the highest gold values on the property to date. (The showing on line 28+65E is on adjoining ground held by Noranda - WEB). The blue quartz is mineralized locally with molybdenite (especially at its western end) galena, tetrahedrite, chalcopyrite and pyrite.

Gold assays range up to 0.69 oz with accompanying 9.13 oz silver per ton (from plugger chips and dust in the vein) on line 64+65E at 4+00N. The vein at this point is some 4 feet wide, but flooding from a spring in the trench prevented exposing the footwall side of the vein. It occurs in a strong shear in conglomerate, and the vein material and several feet of adjacent wallrock is well mineralized with up to 25% sulphides. Panning failed to show any gold colours despite the assay evidence. Other grab samples from the same location assayed 0.05 and 0.03 ounces of gold per ton, while a grab sample from trench No. 31, 100 feet to the west, assayed 0.39 oz gold per ton and 2.30 oz silver per ton. In addition, on line 60+65E at 2+00N, grab samples assayed 0.30 oz gold and 2.52 oz silver; 0.04 oz gold and 0.28 oz silver; 0.06 oz gold and 0.47 oz silver per ton from the same vein.

Diamond drill hole 0S82-13 drilled north to check the pit on line 60+65E at 2+00N intersected the vein between 80.0 and 90.5 feet, which was 40% quartz with 1-3% pyrite at a high angle to the core axis.

Assays were as follows:

0S82-13

From	To (ft.)	Core length (ft)	Gold	Silver (oz per ton)
80.0	85.5	5.5	0.014	0.08
85.5	90.5	5.0	0.09	0.54
90.5	96.0	5.5	0.01	0.07

Further drilling to test the vein on line 64+65E at 4+00N was carried out with 0S82-22 at -45° and 0S82-23 from the same setup at -60°; a synopsis follows:

0S82-22

From	To (ft.)	Core length (ft)	Gold	Silver (oz per ton)
119.5	123.3	3.8	0.10	0.63

0S82-23

From	To (ft.)	Core length (ft)	Gold	Silver (oz per ton)
148.0	149.7	1.7	0.04	0.42
162.0	167.0	5.0	0.03	0.03
167.0	171.0	4.0	0.05	0.41
237.8	238.8	1.0	0.14	0.04

At a point 100 feet to the east, 0S82-24 was also drilled at -45° to the north to provide another test of the vein, which was intersected between 122.0 and 128.0 feet. Assays for the 3.2 foot of core from 125.0-128.2 feet were gold 0.084 oz per ton, and silver 0.54 oz per ton.

The strength of this vein, together with the consistent gold values suggests that this possibility of finding viable gold concentrations is good. It would be necessary to drill at least 6 more holes in the vicinity of line 64+65E to properly search for an ore shoot at that location.

3. The major zone of mineralized carbonate in sheared porphyry near the north contact of the main intrusive body. This zone ranges up to 50 feet wide, and carries sporadic gold values. It strikes east and crosses the

baseline at line 76+65 east. Block faulting by north-striking diabase dykes confuses the picture, but it appears probable that this is the continuation to the west of the zone hosting the high-grade lead-zinc showing on lines 80-84E. In fact, the carbonate is defined as magnetic lows, in an en-echelon faulted pattern as far west as line 52+65E at 11+00S where a grab sample assayed gold 0.03 oz per ton, silver 0.31 oz per ton.

On line 76+21E, drillhole 0S82-9 at -45^0, drilled to the south from the baseline, returned gold 0.11 oz per ton, silver 3.84 oz per ton over a 7.0 foot core length from 169.0-176.0 feet.

Mineralization in the carbonate zone consists of pyrite, chalcopyrite, galena, sphalerite, and tetrahedrite as small grains, often in small quartz stringers which form local lacy networks. The carbonate zone occurs as a slight ridge above the swamp level, and the samples taken to date carried low grade sporadic values. No further work appears warranted on this zone."

Mr. P.A.R. Brown, (1983) then reported on the 1983 holes drilled on the present property as follows:

"Drillhole #28 was completed to 820'. This tested the strong conductor that Falconbridge had picked up running parallel to the baseline from line 96E through 116E. The overburden was deep and the ground very blocky all through the hole. Most of the porphyry carried some chalcopyrite, quite heavy in some sections; however, the best assay was 0.02 Au, 0.12 Ag and 0.54% Cu over 4 feet.

Drillhole #30 was completed to 546'. Located at 96+65E all 11+75N this hole tested weak conductors and low zinc-copper geochem anomalies. Abundant seams of pyrite were cut but assay results were low. The best was 0.01 Au, 0.09 Ag over 2 feet.

Drillhole #32 was completed to 325' on the strong quartz vein at 63E (100' west of #23). The best assay was 0.05 Au, 0.21 Ag over 5.5 feet.

Drillhole #33 was completed to 256'. This again cut the strong quartz vein but 100' west of #32. Best assay this time 0.045 Au, 0.27 Ag over 4 feet.

Drillhole #31 and drillhole # 36 were both put down under a trench where a gold assay of 1.74 oz/ton and 2.94 Ag/ton was obtained from a grab of narrow quartz vein with cpy and tetrahedrite.

#31 returned a best value of 0.022 Au, 0.05 Ag over 10 feet
#36 returned a best value of 0.022 Au, 0.12 Ag over 1 foot

Drillhole #37 was drilled north across the lead/zinc showing on 84E. Minor lead/zinc was cut. Best assay was 114.5-119.5, 0.92% Zn, 0.34% Pb, 0.26 oz Ag and 0.018 oz Au. This hole was completed at 251'.

Drillhole #38 is a 60° hole under # 37 and was to verify the absence or presence of the lead zinc showing down dip. It is possible that these high grade lenses could swell out and this is a final check in that area. Depth 300'.

Results from #38 gave 1.31% Zn, 0.32% Pb, 0.32 oz Ag and 0.015 Au over 6 feet, which shows the zone narrowing considerably from surface. This does show the zone still present 100 feet from surface. However, the grade is uneconomic.

Drillhole #39, the last in the series of holes went to 250'. Weak mineralization only was encountered".

As is often the case in gold work, the Osway drilling (and the present author's sampling) failed to duplicate the initial high surface values and it is suspected that the Osway grab samples were quite selective. The average gold tenors of these zones, although not uninteresting, is clearly lower than the initial sampling indicated.

Considerable efforts were made to locate the Osway core. It has been determined through the assistance of the MNDM in Timmins that this material is stored at the E.B. Eddy camp at Ramsey. The MNDM is going to attempt to recover this very critical material on the authors behalf over the coming months such that additional evaluations and assaying can be carried out as part of the next phase of exploration.

Muscocho Explorations Limited in 1985 optioned the property from Osway Explorations and drilled a further four holes within the confines of the present property (this information is not present in assessment files but was kindly made available to the author by the former president of the now defunct Osway Explorations Ltd.)

The Muscocho holes are indicated on the accompanying map by the "85" designation. Hole 1 did not obtain any significant values (best -100 ppb over 2.5 feet at 62.0 feet).Hole 2 was drilled to intersect the Osway VLF-EM conductor which extends west from the Jess-Mac zone. The conductor was indicated to consist of a pyritic sericite schist zone from 85 to 112 ft with the highest gold

value being 75 ppb. A lower sericitic zone assaying 85 ppb Au was intersected from 320-322.5 ft.

Holes 85-3 and 5 were indicated by Muscocho to have been drilled in the area of the Gaffney or Jess Mac zone as indicated on the accompanying map. The best intersection was in "mineralized syenite" from 563.7 to 571.5 feet in hole 85.3 which assayed 0.017 oz Au/ton.

There appears to be some problem with the location of Muscocho holes 2, 3 and 5. What distinctly appeared to be a drill set-up was found some 200 feet east of the indicated location for hole 2. The set-up for hole 5, with legible flagging still present, was found on the drill road some 75 feet south of the Muscocho - indicated location. Some of the core was still present in wired up core boxes at the site. Another 200 feet east of hole 5 along the drill road is another drill set-up identified by flagging as hole 85-4 yet there is no mention of a hole 4 in the Muscocho reports?

The Muscocho drill geology is also at odds with that established by the surface work and other drill results in many cases. For example, the VLF conductor in hole 85-2 is indicated to be dipping 45^0 to the south, a somewhat unlikely proposition given the very steep dips on the property. Attempts are also going to be made to locate and examine the Muscocho core. Until this is done, I have largely ignored the Muscocho drill geology in the positioning of geologic contacts recognizing fully, however, that such contacts may have to be modified upon examination of both the Osway and Muscocho core.

5.0 REGIONAL GEOLOGY AND MINERALIZATION

5.1 The Swayze Greenstone Belt

The Swayze area is one of Ontario's historic gold areas and has seen prospecting activities for a variety of metals. Although there are no precious or base metals producers in the area at the present time, the Swayze has a rich mineral endowment typical of the Abitibi Orogenic Belt. Deposits and/or occurrences of gold, silver, zinc, nickel, copper, lead, iron, molybdenum, asbestos, talc, barite, quartz and marl are known in the area. Carbonatite-associated rare earths and industrial minerals are present west of the Swayze associated with the Kapuskasing High. There are indicated to be well in excess of 100 deposits, prospects, showings and occurrences of gold alone.

5.1.1 Geology and Mineralization

The Swayze can be thought of as an arcuate volcano sedimentary ("greenstone") belt of Archean age, convex to the west, extending from Sewell township in the northeast, through Swayze township in the central region, to Groves township in the southeast per Figure 1.

The Swayze greenstone belt forms the westernmost extremity of the central Abitibi belt, partially disconnected from it by a series of north to northwest striking faults and granodiorite/monzonite batholiths.

The volcanics consist primarily of mafic rocks which floor some substantial intermediate-felsic eruptive centres. Two such centres are to be found in the Kenogaming-Penhorwood and Swayze Township areas.

Clastic and chemical sedimentary rocks, including major banded iron formations, are intercalated with the volcanics. These also form regionally extensive sedimentary units as in the southeast portion of the Swayze.

A variety of synvolcanic to post-volcanic intrusions has invaded the supracrustal rocks. The Swayze belt is truncated to the west by a fault-bounded, north-northeast trending Kapuskasing Structural Zone, which contains high-grade metamorphic rocks and associated carbonatite intrusive complexes.

It has been recognized that the rocks in north Swayze represent the first major reappearance of greenstones west of the Timmins-Porcupine gold camp, the latter notable for its production of some 57 million ounces of gold to date.

Known gold mineralization in Swayze is typically of the quartz lode variety generally accompanied by shearing, fracturing and associated sulphides and carbonate. Sulphides typically include pyrite along with any or all of pyrrhotite,

chalcopyrite, galena and sphalerite. Gold is present in a large variety of lithological and structural settings. Some prominent examples are gold in quartz veins and replacements in diorite (Orofino deposit - Silk Township); in carbonate zones (Tooms-Greenlaw area); in siliceous zones associated with felsic porphyry (Rundle No. 1 deposit - Newton Township); in quartz vein zones in sheared sediments (Halcrow-Swayze deposit-Halcrow Township); near a porphyry contact in sheared sediments (Jerome Mine - Osway Township); in sheared, carbonatized mafic volcanics (Joburke Mine); and in quartz veins in granodiorite-granite (Chester-Yeo area).

Gold is also present in oxide iron formation (Marion Township), in pyritic iron formation (Cree Lake area) and in sheared stratiform pyritic zones in intermediate volcaniclastics (Kenogaming Township).

The Swayze has been notorious for its "narrow, erratic quartz veins that don't go anywhere". It is apparent to this author however that these veins may just be the "smoke" with more substantial deposits of the Harker-Holloway or Doyon-Dunnagami variety yet to be found. For example, there are major regional deformation/alteration zones in the north and south Swayze that may represent westward continuations of the Porcupine-Destor and Larder Lake Breaks. A major alteration/deformation zone that seems to be part of a larger system in the south Swayze extends through the present property.

5.1.2 History

The gold potential of the Swayze greenstone belt has been recognized since the early 1900's. An early discovery was made at Moore Lake, Yeo Township, in 1912 by P. Moore who test-pitted an auriferous quartz-carbonate vein within pyritized, carbonatized metasediments. Gold and copper mineralization in quartz-carbonate veins within sheared granite was investigated in Chester Township in 1910. This showing (Lawrence prospect) eventually produced some 16 tons of 7% Cu, 0.15 oz per ton gold in 1916.

Much of the initial exploration focus in the region was directed towards iron deposits. The Woman River iron deposit (Algoma Steel Corp., 1906-07, Heenan and Marion Townships) contains reserves of some 5,100,000 long tons of 40% Fe. Additional iron deposits include that at Radio Hill in Keith and Penhorwood Townships (158,200,000 long tons at 27% Fe; Kakatush Mining Corp., 1958-65). Iron exploration was also carried out in Cunningham Township in the late 1920's.

Barite was discovered by R. Cryderman in Penhorwood township in 1917 with some production reported by Barite Syndicate Explorations in 1923. The deposit is currently held by Extender Minerals Ltd. who reportedly carried out bulk

sampling in 1984 prior to a decision to ship material to their Matachewan barite processing facility.

The first major thrust in gold exploration and development occurred in the period 1930-1943, during which time most of the reported gold occurrences were discovered. Aside from the Joburke Mine, most of the gold production in the area was also from this time period.

Sporadic gold exploration occurred in the mid 1950's and early 1960's with an explosion of activity during the 1980's following an increase in gold prices and the advent of flow through financings. Earlier prospecting discoveries culminated in the 1970's and early 1980's with gold production from the Joburke Mine, Keith Township (Pamour Porcupine Mines Ltd.) and a major evaluation program at the Orofino deposit (Orofino Northgate Joint Venture) along with extensive work on various prospects in the Chester Township area.

Approximately 980,000 tons of gold-silver ore have been mined to date from 7 deposits (Joburke, Jerome, Tionaga, Kingbridge-Gomak, Halcrow-Swayze, Young-Shannon, Lawrence). Two of these contained significant copper values (Lawrence, Young-Shannon).

The lions share of gold production has been from the Joburke and Jerome Mines. The Joburke Mine yielded 632,292 tons grading 0.10 oz gold per ton (1973-75, 1971-81), while the Jerome Mine produced some 56,893 oz Au and 15,114 oz Ag from 335,060 tons of ore (1938-45, 1951).

Base metals exploration was a major focus in the Swayze from mid 1950's to the late 1960's. Lead-zinc mineralization was first discovered in the area in iron formation in Cunningham Township in 1904 by Ridout Mining Co. Later work by Shumsby Mines Ltd. (1957-63) in this same township found a Zn-Cu deposit in which the current owner, MW Resources Ltd., reports reserves of 2,400,000 tons at 2.7% Zn, 0.39% Cu, with a higher grade section of 80,000 tons of 6.2% Zn, 3.9% Cu, 1.2 oz Ag per ton, 0.03 oz gold per ton (1981). Work on a copper-nickel deposit in Groves township from 1953 to 1975 resulted in the delineation of some 500,000 tons of reserves grading 1.5 - 2% combined Cu-Ni (Ontario Nickel Mines Ltd., Nickel Gold Mines Ltd.).

A large portion of the northern part of the belt was evaluated by Canadian-Johns Manville for its asbestos potential from 1951 to 1967. The Reeves Mine in Reeves Township reportedly had reserves of 20,000,000 tons of 3 to 3.5% asbestos fibre content (1967). Upon cessation of the asbestos mining activities, a thriving talc mining/milling complex has been established at the site by Steetly Talc Limited.

5.1.3 Opeepeesway Lake Area

The east arm of Opeepeesway Lake is indicated to be underlain by a subvolcanic felsic intrusive body known locally as the Jerome Porphyry (Siragusa, 1980). The porphyry is indicated to be intrusive into conglomeratic and arenitic sediments.

A sequence of intermediate and mafic volcanic units, including substantial pyroclastic members, outcrops both to the north and south of the East Arm area. The volcano sedimentary sequence is in turn sandwiched between felsic batholithic "basement" intrusive rocks which outcrop in the southwest and northeast portions of Huffman Township.

Schistosities in the rock units strike WNW-ESE and everywhere dip steeply to vertically. There is no evidence of any major fold closures in the area. The OGS was not able to make any stratigraphic top determination in the area, a function in part of the intense deformation and alteration that many of these rocks have undergone.

A major, regionally conformable zone of shearing and alteration, possibly 2 kilometres or more in width, extends along and under the East Arm area of Opeepeesway Lake. This deformation is post-porphyry intrusive in age and has greatly affected the porphyry body and the enclosing sediments. As will be discussed in more detail later, large thickness of sediments have been reduced to very fissile chlorite-sericite schists by the intense shearing.

Notable alteration effects in both the porphyry and sediments, include widespread carbonatization along with hematization and variable silicification, sericitization and pyritization. The latter three effects are usually distinctly shear-controlled and often carry gold values.

It is a possibility, as noted, that this zone of intense deformation/alteration represents a westward continuation of one of the major "Breaks" of the central Abitibi, possibly the Cadillac-Larder Lake/Kirkland Lake Break (s).

The Jerome gold deposit occurred in an embayment along the south contact of a porphyry body to the west of the present property.

5.1.4 The Jerome Gold Mine

A brief review of this deposit is important in the context of work on the present ground.

During the period 1941-1945, 58,893 oz of gold and 15,144 oz of silver were produced from 335,060 tons for a recovered grade of 0.17 oz of gold per ton. Present ore-reserves are reported as 344,000 tons grading 0.19 oz gold per ton, from exploration in 1981.

W.L. Brown (1948) makes the following additional comments.

> "The rocks in the general area are largely Timiskaming conglomerate and arkose intruded by granodiorite porphyry bodies of various sizes. The largest of these porphyry masses extends east from the mine for over 2 miles, and is rudely lenticular in shape. The maximum width of the mass in a north-south direction is 4,000 feet. The orebody lies along a through-going shear zone on the south contact of the porphyry where it narrows down at its western end. Where irregularities exist in the contact, the shear zone cuts through, so that in places the vein has sediments or porphyry on both sides. Contacts between sediments and porphyry are gradational and, as the sediments are highly altered or "porphyritized", it is often difficult to differentiate sediments from porphyry. Close to the vein hydrothermal alteration is extensive and the rocks, both porphyry and sediments, assume a brick-red coloration due largely to fine hematite dust. The vein consists of bluish coloured, cherty replacement silica along the north side and a later, white, quartz-carbonate replacement to the south. Pyrite, chalcopyrite, tetrahedrite, galena, sphalerite, molybdenite, and native gold have been recognized.
>
> The vein, replacing the sheared and brecciated zone along the porphyry contact, has a definite form striking N. 50° W. at the east end of the mine and gradually changing to N. 80° W. at the west end. The average dip is 72° to the north. The gradual arc in the shear zone may be an important structural control on the emplacement of the ore. Fractures or stringer zones diverge tangentially both east and west of the centre of the arc in the main vein. These subsidiary zones consist of a number of rudely parallel, bluish quartz stringers in sufficient number to make ore zones.
>
> The vein material varies from 5 to 75 feet wide. The material of ore grade lies largely along the hanging-wall side and varies from 5 to 40 feet wide. Ore shoots have been found, to date, over a strike length of 3,000 feet.
>
> Post-vein faulting is one of the most prominent structural characteristics of the mine. A series of low-angle thrust faults offset the vein with a right-hand horizontal displacement varying from 1 foot to 50 feet".

6.0 OPERATIONS - 1991 EXPLORATION PROGRAM

The objectives of the field work were a) to locate new mineral showings on the property and b) to gain a thorough understanding of the overall geological setting of the claim area through a program of detailed mapping. It was decided at an early stage that there was no point in an extensive re-sampling of known showings and drill core (had this been available) as this was quite thoroughly carried out during the Osway/Muscocho exploration programs. The one exception was the absence of routine copper assaying by the above operators even though interesting amounts of copper mineralization were described in a number of their drill holes.

The field work was carried out by the author during the summer and early fall of 1991.

The old Osway grid and recent claim lines were used for prospecting and mapping control. The grid is very badly grown in over most of the property such that it was necessary to re-flag much of this before any work could be undertaken. The grid as used herein is reproduced on the map at rear. The old line numbering ending in "+65E" employed by Osway-presumably related to a chainage error on the baseline - has been retained. The author was able to locate and correct one chainage error on the baseline such that all of the lines east of line 110E are now properly located. The grid will have to be re-cut for any further exploration work. All of the claim lines were walked and the posts checked during the field work.

Compilation and evaluation of the previous exploration data both in Toronto and Timmins was ongoing during the entire period.

7.0 RESULTS - 1991 - EXPLORATION PROGRAM

7.1 Prospecting and Mineralization

The previous prospecting efforts by Osway in particular have been very thorough and no major new prospecting discoveries were made. The Osway work included extensive backhoe stripping and blasting and sampling. All of the Osway surface mineralized zones were examined and all of the significant mineral occurrences are presented on the accompanying map. The author did not locate any new zones that were deemed worthy of stripping and trenching although some stripping of outcrops for geological purposes was carried out.

Outcrop is relatively sparse with the bulk of this consisting of sedimentary rocks in the north half of the property. One gets the impression that overburden is quite thin -5 feet or less- in many areas such that, as demonstrated by the Osway work, backhoe stripping should be an effective exploration technique.

Extensive traversing in some impressively thick bush in porphyry terrain south of the baseline yielded little or no outcrop.

Two relatively modest new copper occurrences were found. One of these is in the vicinity of 104+65E, 8+50N where minor chalcopyrite is present in quartz segregations in the contact zone of a diabase dike.

A more interesting occurrence was found at the lake edge on the point of land about 100 feet south of the No. 1 post of claim 1170407. Here, a highly altered zone of feldspar porphyry containing minor fine disseminated chalcopyrite is exposed. The porphyry is intensely altered, sheared and bleached and is variably carbonatized, chloritized, sericitized, hematized and silicified, the latter manifested in part by small irregular quartz patches, segregation and fillings. A sample of this material (OP-91-04, Appendix 1) returned copper value in the 0.20% range. The mineralization appeared to be relatively local although lack of outcrop precluded an accurate assessment of dimensions. Heavy equipment would be required to clean the area. One wonders if the drilling by G. Swedlund in 1950 (p 9) was an attempt to trace this copper mineralization inland by blindly drilling through overburden.

Extensive prospecting in the area of the old Jess-Mac (Gaffney/Smith) base metal-gold occurrences failed to locate any surface manifestations of the mineralization here. This immediate area has been greatly disturbed by previous operators however and numerous, sometimes very large overburden trenches were noted particularly along the projected porphyry-sediment contact. A great deal of debris in the form of old, small diameter drill rods, an old boat, stove, etc. are present in the area attesting to the efforts of former operators.

Progressing to the west, the area in the vicinity of lines 102+65E to 104+65E, 5N-7N was of particular interest to the author. Osway Explorations carried out considerable stripping and trenching here and drilled two holes (83-31, 36). A selected grab sample taken by Osway from the second trench from the east returned 1.74 oz/ton gold.

The rocks exposed consist of feldspar porphyry which is notably quite massive, ie non-foliated, relative to other areas and contains minor magnetite. Finely disseminated chalcopyrite and associated malachite/azurite is present in a number of zones both in massive porphyry and in sheared, altered zones, over a north-south width of at least 200 feet. A significant amount of the copper is present in late quartz segregations and veinlets, the latter 1 inch or less where observed. These quartz veinlets trend N-S and dip 45^0-55^0 W. Osway clearly recognized this attitude judging by the northeasterly bearing of their hole 31. Hole 36, on the other hand, would not have been particularly effective in cross-sectioning these structures given its grid N bearing. An easterly directed hole drilled at a relatively steep angle would be most effective in evaluating these late, copper-bearing structures.

Both holes 31 and 36 consistently report disseminated chalcopyrite and chalcopyrite in quartz veins over virtually their entire length. The relatively uncommon mineral anhydrite is also reported. Unfortunately, there were no assays for copper. The highest gold values reported were in the 0.02 oz/ton range. This is consistent with my sampling (sample OP-91-01) which returned a gold value of 0.031 oz/ton and an associated copper value of 0.33% from chalcopyrite-bearing porphyry in an old trench at 103E, 5+50N. Another sample taken 200 feet further north (OP-91-02) of minor disseminated chalcopyrite in massive, dark, chloritic magnetite-bearing feldspar porphyry with reddish alteration returned 0.15% copper and an anomalous gold value of 1110 ppb (0.03 oz/ton). It would appear that the Osway holes did not cross section the entire mineralized zone to the north considering the above value. It might also be very interesting to drill investigate the porphyry-sediment contact in this immediate area. The high Osway gold value (1.74 oz/ton) from this zone seems to be a local, erratic effect and is clearly not representative of the zone as a whole.

Osway surface sampling in the area of line 84+65E, 4N and to the west along strike returned some significant base metal-gold values as previously reported. Diamond drilling (10 holes) in this area generally suggested patchy, discontinuous, shear-controlled mineralization. Osway again carried out extensive backhoe stripping and trenching on this zone. Inspection of the Osway trenches reveals that the high Pb-Zn values were derived from a 6 inch, strongly carbonatized shear containing sphalerite and galena. This zone is within a longer shear zone in chloritic feldspar porphyry now characterized by quartz-sericite-pyrite-carbonate schists. Some fuschite is present. It may be significant in an exploration context

that the westernmost Osway hole on this structure on the present property returned the best gold intersection of their entire campaign (0.11 oz/ton gold, 3.84 oz/ton silver over 7.0 feet) from an altered zone containing quartz-carbonate vein material and pyrite. With the exception of Muscocho hole 85-1,this zone is completely open for at least a claim further to the west. A large sample of the altered pyritic shear material collected by the author from the trench on line 84+65E, 4N returned 0.09 oz/ton gold (sample OP-91-03).

The last known surface mineralized area of significance occurs across the central portion of claim 1176299. Previous (selective?) surface sampling by Osway returned gold values in the 0.30-0.69 oz/ton range with silver values in the 2-9 oz/ton range. Drilling (six holes) returned lower although interesting values with results in the 0.01-0.14 oz/ton gold range over 1-5 widths. The greatest gold concentration was in a 5 foot sample from hole 13 at the west end of the zone which returned 0.09 oz/ton gold. A number of parallel zones are indicated. My sample OP-91-06 from a 5 foot wide mineralized shear at about 67E, 5+25N returned 2120 ppb gold (0.062 oz/ton gold).

Surface inspections show the gold mineralization to be contained within strong shear zones in coarse conglomeratic sediments. Individual shears range up to 6 feet or more in width and are observable across 200 feet or more in a north-south direction. The shear zones are characterized by intense sericite-pyrite-silica alteration/mineralization which weathers a distinctive greenish colour. There is considerable quartz vein material present in these structures but the quartz vein material is itself also intensely broken up, bondinaged and otherwise deformed. This quartz veining is therefore pre-shearing in age. This zone of shearing, alteration and mineralization continuous eastwards onto the adjoining claim where it has been investigated by surface trenching but not by drilling.

The present prospecting work also revealed a low (1-3%) pyrite content in sheared chloritic/sericitic porphyry along the southeast property boundary. Sample OP-91-05, which is fairly representative of the material in this area, returned 72 ppb gold.

7.2 Property Geology

7.2.1 General

The geology of the claim group as determined by the present detailed mapping and evaluation of previous drilling results is presented on the accompanying map. The author has attempted to honour Siragusas' (1980) rock classification scheme wherever possible.

In simplest terms, the property straddles an east-west, steeply south dipping porphyry-sediment contact with porphyry predominating to the south and sediments to the north.

The latter are in contact with mafic volcanics in the extreme north portion of the property .

7.2.2 Lithology and Stratigraphy

Previous workers have recognized that the Jerome Porphyry may not be a simple, homogeneous deep-seated porphyry intrusive body. Siragusa (1980) refers to this as comprising "subvolcanic felsic rocks" of presumed intrusive origin. The Osway Exploration geologists (Graham, 1963, p9) noted that "....some of the units previously thought to be intrusive porphyries may in fact be crystal tuff". The above author also made the comment (p9) that "....some rock types previously classed as metasediments may really be pyroclastic in origin". The Muscocho geologist (Mathews, p 16, 1985) observed that the intrusive may consist of a series of sills or dikes. These comments are completely in accord with my findings.

Megascopically, the "porphyry" consists basically of 30-50% or more of 1-4 mm feldspar phenocrysts or crystals in a variably foliated, chlorite-predominant matrix (rock type 5f). Chloritic inclusions or fragments are often observed. More intense shearing, alteration and mineralization processes have produced a number of porphyry sub-varieties. Hematization of the porphyry is common and such rocks are often quite dark on a fresh surface, with a very distinctive pinkish weathering tinge. These dark versions of the porphyry are typically magnetite-bearing such that the hematite is presumably derived from alteration of the magnetite. Such rocks also may be quite massive (rock type 5m). Portions of the north contact area of the porphyry complex, in particular, are characterized by linear magnetite concentrations considering the previous Osway magnetometer survey results.

Strongly sheared, markedly sericitic (+/- carb, py) porphyry (rock type 5c) is present along the lakeshore and inland in the southeast portion of the property. Probably the most intensely altered version of the porphyry is along the point in the area of sample 0P-91-04. The intense bleaching, sericitization and silicification have rendered this rock totally unrecognizable as any form of porphyry.

The porphyry is notably more chloritic in some areas, eg around the base metal mineralization at 4-5 N, line 84+65E. This area also contains a key outcrop at about 84E, 4+75N. Here, there is a clearly recognizable, 8 inch feldspar porphyry clast in a matrix of white weathering chloritic feldspar porphyry. This rock is definitely a pyroclastic tuff-breccia (5 p) with the matrix material quite properly being classed as a crystal tuff per previous workers. Nowhere else could the above determinations be made with the same degree of certainty, a reflection of a relative paucity of outcrop and the often intense shearing and alteration. One gets the impression however based on the old drill logs and the above observations that much (most?) of the porphyry along the north contact area is of pyroclastic origin. This pyroclastic material may be forming a carapace over an underlying subvolcanic porphyry and/or the subvolcanic porphyry may be intrusive into its own pyroclastic pile. This implies that tops are to the north on the property, an inference for which there seems to be considerable evidence as will be discussed latter.

Further evidence that the porphyry is some form of composite body is suggested by the thick (100 ft +/-) conglomeratic unit intersected in Osway hole 28 and the presence of additional sedimentary rocks a further claim to the south in the old Swedlund drilling.

The foregoing porphyry complex is in contact to the north with coarse conglomeratic rocks (rock type 3a). These are very well displayed in the large outcrop area on claims 1176299-230. The clasts are generally white weathering, usually 6 inches or less in length and include feldspar porphyry, quartz-feldspar porphyry and mafic to felsic volcanics, along with minor chert, jasper and vein quartz. The greenish weathering matrix is typically variably carbonatized and is of chlorite-sericite composition with a sedimentary/tuffaceous aspect.

Towards the north, clast size and abundance progressively decrease and units of chlorite schist and chlorite-sericite schist (rock type 3a) are intercalated with the clastic/fragmental rocks as in the northeast corner of claim 1176297. These rocks have a distinct volcanic aspect and, I think, would be mapped as interbedded mafic pyroclastics by most geologists.

A unit containing lithologies similar to the foregoing but of much more felsic composition is interbedded with mafic schists in the northernmost tier of claims. These are inferred to be intermediate to felsic pyroclastic rocks (rock type 3c).

In all, the author interprets these rocks to represent volcanic sediments grading from volcanic conglomerates in the south to predominantly fine

mafic sedimentary/tuffaceous units in the north with the one felsic unit as noted. The indication of fining to the north might also be an indicator of stratigraphic tops in that direction.

This thick volcano-sedimentary unit is in contact just south of the north property boundary with moderably foliated chloritic mafic volcanics (rock type 1b).

Late diabase dikes (rock type 8) cross cut all rock units.

7.2.3 Petrography and Chemistry

Microscopic examination of a thin section of the "5c" rock type from the outcrop along the shoreline on claim 1176294 underscores the highly deformed and altered nature of this rock. The rock is strongly foliated and consists essentially of 0.5-2mm feldspar crystals with minor quartz crystals in a fine quartzo feldsparthic-sericite-carbonate groundmass. The quartz crystals are generally smaller than the feldspar crystals being in the 0.2-1mm range.

Most of the feldspars appear to be plagioclase although there is some orthoclase considering the whole rock chemistry. A unique determination was not made on the plagioclase although based on extinction angles on albite twinning, this is in the An10-30, ie albite, range. Pericline twinning is also present. The albite crystals have been strongly altered, fractured and broken up with distinct offset along microshears observed in many cases. Microfractures in the crystals are typically filled with quartz-carbonate-sericite.

These minerals also replace large portions of many feldspar crystals and variably speckle others. A few crystals have distinct sericite rims. The quartz crystals are generally well rounded and fresh looking, often with a fairly uniform extinction. They are occasionally fractured with the fractures filled as above.

There is a substantial amount of secondary carbonate in the rock, in the order of 5-7%. Much of this occurs in distinct microbands with quartz, sericite and pyrite. Sericite occurs as tiny flakes and fibrous aggregates throughout the rock and frills microshears.

There are 2-3% opaques in the slide, some of which is late pyrite which has exerted its crystal form at the expense of all other minerals. About half of the opaque material appears to be hematite base on a deep ruby red coloration in thinner portions of the grains.

Occasional small grains of a high relief mineral with high order interference colours appears to be epidote.

A strong schistosity is present in the slide defined by the alignment of the long axes of feldspar crystals, the parallelism of shear-controlled microbands of varying mineral composition and particularly by sericite-filled microshears. These sericite microshears are deflected by and warp around plagioclase crystals in many cases in addition to cutting through them.

Whole rock and trace element data are presented for this rock in Appendix 2. These data were evaluated using a standard lithogeochemical program to which the author had access, the results of which are also presented in Appendix 2.

In terms of the chemistry, the secondary carbonate content is reflected in the CaO and LOI values. The elevated Ba value suggests the presence of some barite in the rock although none could be identified in thin section. The barium is most likely occurring as barian potash feldspar.

The inferred normative mineralogy suggests the presence of considerable orthoclase in the rock due, presumably, to the 2.82% K_2O content. The potash is actually represented largely by sericite, a reflection in turn of a weak potash metasomatism as corroborated by the positive K_2O "volcanogenic evaluation residual". These residuals also indicate some iron depletion in the rock, reflected megascopically by the very light coloration.

All four rock classification schemes identify the rock chemically as a dacite and this particular rock might therefore be most appropriately termed a dacite porphyry.

Two further samples of the porphyry taken from drill core found at the collar of Muscocho hole 85-5 were examined in thin section. These are much more typical of the foliated chloritic hematitic porphyry rock, type "5f". These again are strongly foliated specimens with the foliation being largely defined by the 10-15% chlorite-sericite in the rocks. The chlorite generally forms larger, ragged masses elongate parallel to schistosity with the sericite forming smaller, disseminated foliation-parallel shreds. Some of the chlorite, in turn, is altered to biotite.

Prominent larger grains of feldspar and subordinate quartz have again been variably broken up and microveined and replaced by finer grained quartzo-feldspathic material along with carbonate and chlorite-sericite. The bulk

of the feldspar is sericitized plagioclase. Some larger, Carlsbad-twinned crystals are probably orthoclase. These feldspar crystals and crystal aggregates range up to 5 mm across and make up 30-40% of the rock.

One of the thin sections was cut so as to cross section a fine-grained chloritic fragment in the core about 2 cm long by 3-5 mm wide. In thin section this was seen to consist of a felted chlorite mass containing patches of very fine quartzo-feldspathic material along with minor carbonate and epidote and considerable biotite. Most of this biotite has a distinct lath-like form and appears to be secondary after amphibole. A few relatively unaltered amphibole laths were also observed. Fragment outlines are generally sharp. The fragment is surrounded by a carbonate-rich fringe and appears to be of a mafic volcanic. It is uncertain if this is a small mafic xenolith in an intrusive rock or a lapilli-sized fragment in a pyroclastic although the former interpretation is tentatively favoured.

Sample OP-91-02 was also examined in thin section. This rock megascopically is a massive, reddish-tinged (hematitic), magnetite-bearing feldspar porphyry (rock type 5m) which contains minor finely disseminated chalcopyrite. The largest individual feldspar crystal measured approximately 2.5 mm in long dimension.

In thin section, the rock consists of 50% feldspar crystals in a quartzo-feldspathic-chlorite groundmass with considerable high relief epidote and various opaques including hematite, magnetite and chalcopyrite. The feldspar grains are heavily "dusted" with very fine alteration products including sericite, chlorite and epidote. The bulk of the feldspar again appears to be plagioclase based on twinning styles.

What is interesting about this specimen is that, although it looks relatively massive and unaltered in hand specimen, in thin section it can be seem that the porphyry is considerably recrystallized and altered. The large feldspar grains show strongly corroded and re-crystallized grain boundaries and the groundmass appears to be extensively recrystallized now appearing essentially as a very fine quartzo-feldspathic mosaic. Some of the larger feldspar grains are so strongly corroded that little remain of original crystal outlines. In some cases, little remains of the entire crystal. Carbonate is conspicuous by its absence in the rock.

For whatever reason this rock has escaped the intense deformation that has affected most of the other rocks in the area. It is quite strongly altered and recrystallized however, processes possibly associated with the copper mineralizing event.

Copper-bearing sample OP-91-04 was also studied in thin section and chemically analyzed.

In hand specimen this is a strongly sheared, highly altered orangish rock whose original nature is unrecognizable. There are virtually no mafic minerals.

In thin section, it is evident that this is an altered feldspar porphyry in that strongly recrystallized and altered remnants of feldspar crystals can be seen. These crystals occur in a fine, variably recrystallized anhedral quartzo feldspathic groundmass which also contains abundant carbonate and sericite. The sericite is interesting in this case in that it forms relatively coarse books and laths. Hematite occurs as coarse irregular grains and also as very fine, amorphous-like material around grain boundaries and along cracks and cleavage faces and as fine dustings on other minerals. Minor (<1%) amphibole is present in the rock. This is strongly pleochroic in green and appears to be hornblende.

Chemically, this rock is again relatively anomalous in barium (Appendix 2). Elevated K_2O contents relate to the strong sericitization visible in thin section. The indicated normative orthoclase is again largely sericite. The positive SiO_2 residual of 2.59 attests to the addition of considerable silica consistent with the identification of a great deal of fine, anhedral quartz in thin section.

The four rock classification schemes identified the rock variously as an andesite, a dacite and a rhyolite. I suspect this divergence in nomenclature is due to the disturbed nature of the chemistry, in turn a reflection of the considerable copper-mineralization associated (?) alteration this rock has undergone.

This particular rock might most appropriately be called an altered dacite porphyry.

7.2.4 Structure

The property is situated on a major regional zone of shearing and deformation. This is manifested in the rocks as a variable but often quite intense schistosity which has destroyed a great deal of primary features. The shearing is impressively manifested in the volcanic conglomerates wherein the various clasts have been greatly elongated parallel to schistosity.

Schistosity and major geologic contacts trend WNW-ESE and generally dip steeply south although local steep north dips were noted.

The north limit of the deformation zone coincides approximately with the northern most property boundary based on the identification of relatively more massive volcanics at this location.

No major fold closures are inferred in the property area although such might be hard to detect with this level of deformation.

8.0 DISCUSSION

The interpretation that the porphyry complex (and adjoining "sediments") contain significant pyroclastic components has some interesting exploration ramifications. Firstly, this suggests the possibility for volcanogenic massive sulphide deposits. It should be noted in this regard that the Zn-Pb +/- Cu, Au, Ag mineralization at the Gaffney showing and in the area of line 84+65E, 4N are at approximately the same stratigraphic level even though they are 3/4 mile apart. This may represent original stratiform base metal mineralization that has been remobilized during subsequent deformation.

The gold-quartz zones in volcanic conglomerates at the extreme west end of the property and at the Smith showing in the east end are again at approximately the same stratigraphic/structural position suggesting, if nothing else, additional potential in the intervening 6000ft +/- area.

Possibly of greatest interest is the recognition of a gold-copper system in subvolcanic feldspar porphyry/pyroclastic rocks on the property. The area around holes 82-20 and 83-28, 31 and 36 in the central portion of the property seems to be the most significant in this regard. The presence of chalcopyrite in Osway holes 31 and 36 and the overlying surface trenches has been noted. The log in hole 28 immediately to the south also is pertinent. The Osway geologist (Brown, 1983) in a summary comment notes that "this hole drilled to test the Falconbridge conductor running parallel to the baseline and also the copper geochem anomaly. Depth was required to see if mineralization changed. A large section of low grade copper was intersected with low gold and silver values".

The only copper assay reported was from 403-407 feet which returned 0.54% copper, 0.02 oz/ton and 0.12 oz/ton silver. The section from 687-698 feet was indicated to contain 2-3% chalcopyrite with 5% chalcopyrite from 794-797 feet in hematized porphyry. There may be a very direct analogy to be drawn here with the copper porphyry orebodies that yielded considerable amounts of copper and gold at the MacIntyre Mine near Timmins. Anhydrite (calcium sulphate) was a characteristic associate of the copper ores in the MacIntyre Mine. It is also present in significant amounts in holes 31 and 36 considering the logs for these holes.

Hole 20, some 600 feet to the west of this area was drilled down a diabase dike for most of its 202 ft length. The top 60 feet of the hole intersected magnetic feldspar porphyry with minor disseminated bornite and chalcopyrite. The comment is made at the end of the drill log that the hole was drilled to intersect previous Falconbridge EM conductor No. 4. This conductor was further indicated to have a "..... coincident high copper geochem". The conductor was never intersected due to the presence of the diabase dike.

In total, the copper and gold mineralization would seem to be present over an area of least 1000 ft by 1000 ft.

The limited chemistry that was carried out yielded some interesting results, particularly in the form of elevated barium levels in the porphyry rocks. This factor, along with the reported presence of anhydrite and molybdenite in core and widespread sericitization is suggestive of the alteration/mineralization system at the Hemlo gold deposits.

9.0 CONCLUSIONS

The results of field work, extensive review of previous data and limited chemical and petrographic work permit a number of conclusions regarding the economic potential of the Opeepeesway Lake property:

1. There are an impressive number of chemically elevated to sub-economic gold and base metal values on the property. It appears that virtually every hole drilled by previous operators intersected some gold or base metal values. One of the best intersections (0.11 oz/ton gold, 3.84 oz/ton silver-Osway hole 82-09) has only been superficially followed up. Although there are other known gold-base metal occurrences along the north side of Opeepeesway Lake, the bulk of the known occurrences are on the present property.

2. The Jerome Porphyry is concluded to be a complex layered body comprising subvolcanic felsic porphyry intrusions, their pyroclastic equivalents and various sedimentary units. The adjoining sediments are predominantly of volcanic character.

3. Three types of possibly totally unrelated mineralized systems are present on the property as follows:

   a) shear-controlled gold-silica-sericite-pyrite mineralization in volcanic conglomerates

   b) shear-related gold-base metal mineralization in carbonatized feldspar porphyry pyroclastics

   c) gold-copper mineralization with anhydrite in hematitic feldspar porphyry

4. There has been considerable previous exploration on the property. Most of this, however, has been relatively shallow. Also, the geophysical approach probably best suited to exploration for mineralization styles a) and c), namely Induced Polarization, has never been utilized. It is critical to know the extent and distribution of polarizable minerals eg chalcopyrite, bornite, pyrite, etc on the property both from a direct exploration prospective, ie copper, and an indirect one, ie gold with pyrite. Likewise, no form of modern, deep penetration ground EM surveying - eg EM-37 - has ever been carried out in a test for massive sulphide deposits whose potential presence is suggested by mineralization type b).

5. The property is concluded to offer good exploration potential for precious and base metal deposits and further work should be carried out on the claims as outlined in the next section.

10. RECOMMENDATIONS AND BUDGET

A two phase program is proposed to further explore the property. Phase 1 should consist of linecutting and blanket IP surveying with selective large loop, deep penetration time domain EM surveying along the main porphyry-sediment contact and across previous Falconbridge conductors 1 and 4. The linecutting should use the old Osway baseline with lines at 100m intervals and 25m stations. This work should be carried out in winter as it is essential that the lake areas also be covered. Extensive assaying and additional chemical and petrographic work should be carried out on the old Osway and Muscocho core assuming this can be located. The attempts to locate additional old records etc. should remain on-going. One zone, for example, that seems to have been largely ignored by subsequent operators is the original Smith gold-quartz zone which contained the best reported gold intersection on the entire property (0.24 oz/ton over 6.5 ft).

Phase 2 should consist of a 5000 ft drill contingency to test targets located by Phase 1.

The work is budgeted as follows:

Phase 1

Linecutting 35 km @ $300/km	$ 10,500
IP surveying (including detailing) 25 crew days @ $1,700/day	42,500
TDEM allowance	15,000
Assay, analytical	10,000
Support, mob-demob, supervision, consulting	15,000
Reporting, drafting, reproduction	7,500
TOTAL PHASE 1	$100,500

Phase 2

5000 feet BQ core drilling @ $35/ft all inclusive	$175,000
TOTAL PHASE 2	$175,000
TOTAL PHASE 1 AND 2	$275,500

Further work would be contingent on the results of the above relative to our exploration models for the property.

Respectfully submitted,

W.E. Brereton, P.Eng.

REFERENCES

Brown, P.A.R., 1983. 1982-1983 Diamond Drilling Program for Osway Exploration Ltd., Osway and Huffman Townships, Ontario

Brown, W.L., 1948. The Jerome Mine in Structural Geology of Canadian Ore Deposits, CIMM, 1948, pp 438 - 441

Graham, R.J., 1983. Summary Report with Recommendations on Osway Explorations Ltd. Gold/Base Metals Property in Osway and Huffman Townships, Ontario

Mathews, H.L., 1985. Summary of Diamond Drill Programme, Jerome Project 1985, Muscocho Explorations Limited (private company report).

Siragusa, G.M., 1980. Jerome Areas (East), District of Sudbury; Ontario Geological Survey Preliminary Map. P 2370, Geological Series, Scale 1:15, 840.

Tays, R.H., 1971. Report of Magnetometer, Vertical Loop E.M. and Induced Polarization Surveys, Falconbridge Nickel Mines Limited, Opeepeesway Claim Group, Osway and Huffman Twps, Ontario

APPENDIX 1

SAMPLING AND ASSAYING

SAMPLE DESCRIPTIONS

Sample No	Location	Type	Description	Gold oz/ton ppb	Silver oz/ton	Copper %
0P-91-01	103+15E, 5+50N	grab	alt fsp ppy wi qtz veinlets and minor diss cpy	0.031	0.18	0.33
0P-91-02	102+15E, 7+25N	"	dark massive magnetic fsp ppy wi reddish alteration and minor diss cpy	1110		0.15
0P-91-03	84+65E, 4+00N	"	shrd, sil, py zone in chl fsp ppy	3060		
0P-91-04	98+00E, 18+75S	"	intensely alt ppy-hem, bleached, sil, minor cpy	82		0.17
0P-91-05	125+30E, 1+75W	"	shrd ser fsp ppy, 3% py	72		
0P-91-06	67+25E, 5+50N	"	sil, ser zone 5' in conglom, 2-3% py	2121		

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Assay Certificate

1W-3944-RA1

Company: **M.P.H. CONSULTING LIMITED** Date: SEP-16-91

Project:

Attn: W. BRERETON

We hereby certify the following Assay of 6 ROCK samples submitted SEP-11-91 by .

Sample Number	Au oz/ton	Au ppb	Au check ppb	Ag oz/ton	Co %	Cu %
OP-91-01	0.031			0.18	<0.005	0.33
OP-91-02		1110			<0.005	0.15
OP-91-03		3051	3069			
OP-91-04		82			<0.005	0.17
OP-91-05		72				
OP-91-06		2102	2139			

Certified by L. Jones-Yelon

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

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

APPENDIX 2

CHEMISTRY

TECHNICAL SERVICE LABORATORIES
1301 FEWSTER DRIVE, MISSISSAUGA, ONTARIO L4W 1A2
PHONE #: (416) 625 - 1544 FAX #: (416) 625 - 8368

I.C.A.P. ANALYSIS

Minor Elements by Fusion

REPORT No. : M9816
Page No. : 1 of 2
File No. : SE25RA
Date : SEP-26-1991

ALL RESULTS PPM

SAMPLE #	Be	Co	Cr	Cu	Ni	V	Zr	Nb
	Ppm	Ppm	Ppm	Ppm	Ppm	Ppm	Ppm	
BOP-1	2	6	85	110	20	76	70	< 30
BOP-10 = OP-91-04	2	6	130	2100	30	76	130	< 30

TECHNICAL SERVICE LABORATORIES
1301 FEWSTER DRIVE, MISSISSAUGA, ONTARIO L4W 1A2
PHONE #: (416) 625 - 1544 FAX #: (416) 625 - 8368

REPORT No. : M9816
Page No. : 1 of 2
File No. : SF25RA
Date : SEP-26-19

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium Metaborate Fusion

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Ba PPm	Sr PPm	Zr PPm	Y PPm	Sc PPm	LOI %	TOTAL %
BOP-1	62.60	13.77	4.30	4.03	2.07	3.72	2.82	0.39	0.11	0.18	945	577	168	18	8	6.35	100.34
BOP-10 ± SP-91-09	64.35	12.27	4.11	3.83	2.09	2.73	2.92	0.42	0.07	0.38	1009	289	178	10	9	6.15	99.32

LITHOGEOCHEMICAL APPLICATIONS PROGRAM

bap-1

SiO2	62.6	Al2O3	13.77	Fe2O3	4.3
FeO	0	MgO	2.07	CaO	4.05
Na2O	3.72	K2O	2.64	TiO2	.39
P2O5	.13	MnO	.11	LOI	4.35

Sum of Oxide Values 100.34

NORMALIZED OXIDE VALUES

SiO2	62.77	Al2O3	13.73	Fe2O3	4.32
FeO	0.00	MgO	2.07	CaO	4.06
Na2O	3.73	K2O	2.65	TiO2	.39
P2O5	.13	MnO	.11		

PRESS ANY KEY TO CONTINUE OUTPUT

LITHOGEOCHEMICAL APPLICATIONS PROGRAM

bap-1

NORMALIZED OXIDE VALUES

SiO2	62.77	Al2O3	13.73	Fe2O3	4.32
FeO	0.00	MgO	2.07	CaO	4.06
Na2O	3.73	K2O	2.65	TiO2	.39
P2O5	.13	MnO	.11		

CATION PERCENTAGES

Si	61.07	Al	15.75	Fe+3	1.91
Fe+2	0.00	Mg	3.00	Ti	0.28
Na	7.16	K	3.07	P	.23
O	1.55	Mn	.09		

PRESS ANY KEY TO CONTINUE OUTPUT

LITHOGEOCHEMICAL APPLICATIONS PROGRAM

bap-1

Al2O3/TiO2	35.2	K2O/Na2O	.71
Fe2O3/FeO	Inf	MgO/CaO	.51
Fe2O3/TiO2	11.08	Na2O/K2O	1.41
FeO/MnO	0.00		

/SiO2 .4 .46
/SiO2 .05 .04

/ALUMINA RATIOS AND CATION RATIOS
/A1203 .14 7.0000E-02
/A1203 .16 .11
/A1203 .18 .19
/A1203 .29 .27
/A1203 .27 .44
/A1203 .2 .22

ESS ANY KEY TO CONTINUE OUTPUT

OGEOCHEMICAL APPLICATIONS PROGRAM

Sep-1

Silica Ratio Etc.

O/Na2O			.76
T/MgO			1.07
O1/CaO			.49
O2/K2O			.25
AG			33.7
: K	52.3	: 29.4	: 18.1
: A	30.1	: 15.4	: 54.5
: K	31.0	: 56.6	: 11.4
: K	66.1	: 20.3	: 13.5

uminosity Index 1.07
K 119
n 70

ESS ANY KEY TO CONTINUE OUTPU

OGEOCHEMICAL APPLICATIONS PROGRAM

Sep-1

Norm Values

Z	1.1
CLASE	37.1 ← no - Seriate
E	13.8
HITE	4.3
IDE	12.5
STHENE	1.5
TITE	2.7
ITE	.3
TE	.5
SUM	103

LOG [illegible]

MgO -.33 K2O 2.02 Fe2O3 -2.64

Na2O -1.09 CaO -.74 SiO2 2.59

DISCRIMINANT FUNCTIONS

DF1 -.31
DF2 -7.47
DF3 -7.77
DF4 -2.78
DF5 -1.32

PRESS ANY KEY TO CONTINUE OUTPUT

mm-01

SiO2 72.9[illegible]
FeO 0 MgO .75 CaO 1.48
Na2O 4.56 K2O 2.28 TiO2 .03
P2O5 .04 MnO 9.[illegible]E-02
LOI 2.14
Sum of Oxide Values 100.13

NORMALIZED OXIDE VALUES

SiO2 74.43 Al2O3 14.54 Fe2O3 1.61
FeO .33 MgO .75 CaO 1.51
Na2O 4.70 K2O 2.33 TiO2 .03
P2O5 .04 MnO 9.[illegible]E-02

PRESS ANY KEY TO CONTINUE

LITHOSEIS CHEMICAL [illegible]

mm-01

NORMALIZED OXIDE VALUES

SiO2 74.43 Al2O3 14.54 Fe2O3 1.61
FeO .33 MgO .75 CaO 1.51
Na2O 4.70 K2O 2.33 TiO2 .03
P2O5 .04 MnO 9.[illegible]E-02

matagami

Ontario

41009SE0001 2.14485 HUFFMAN

900

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Geoscience Approvals Section
159 Cedar Street
4th Floor
SUDBURY, Ontario
P3E 6A5

Telephone: (705) 670-7264
Fax: (705) 670-7262

Mining Recorder
Ministry of Northern
Development and Mines
60 Wilson Avenue
TIMMINS, Ont.
P4N 2S0

Our File: 2.14485
Your File: W9160.00268

March 16, 1992

Dear Sir:

SUBJECT: APPROVAL OF ASSESSMENT WORK SUBMITTED ON MINING CLAIMS P 1170407 ET AL., HUFFMAN TWP..

The assessment work credits for the work submitted on the above Report of Work has been approved as of March 9, 1992. Notice that a duplication in the direct and indirect costs on the Statement of Costs has been eliminated without altering the total value of credit recorded.

Notice also that the awarded assessment credits have been reorganized to reflect the water-covered state of several of the claims. Again, changes do not adversely effect assessment credit, but do alter the distribution of credits placed in reserve.

Please indicate this on your records.

Yours sincerely,

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

DT/jl
Enclosures:

cc: Assessment Files Office
Toronto, Ontario

Resident Geologist
Timmins, Ontario

ASSESSMENT WORK CREDIT FORM

File No.: 2.14485

Work Report No.: W9160.00268

Date: March 9, 1992

RECORDED HOLDER: W.E. Brereton

CLIENT NO.: 111858

TOWNSHIP/AREA: Huffman Twp.

CLAIM No.	VALUE OF ASSESSMENT WORK DONE DONE ON THIS CLAIM	VALUE APPLIED TO THIS CLAIM	VALUE ASSIGNED FROM THIS CLAIM	CREDITS RESERVED
P 1170407	91.00	400.00	0.00	0.00
P 1170414	0.00	400.00	0.00	0.00
P 1176292	0.00	400.00	0.00	0.00
P 1176293	0.00	400.00	0.00	0.00
P 1176294	232.00	400.00	0.00	0.00
P 1176295	232.00	400.00	0.00	0.00
P 1176296	763.00	400.00	363.00	121.00
P 1176297	763.00	400.00	363.00	121.00
P 1176298	763.00	400.00	363.00	121.00
P 1176299	763.00	400.00	363.00	121.00
P 1176300	763.00	400.00	363.00	121.00
P 1176301	763.00	400.00	363.00	120.00
P 1176302	232.00	400.00	0.00	0.00
P 1176303	763.00	400.00	363.00	120.00
P 1176304	763.00	400.00	363.00	120.00
P 1176305	763.00	400.00	363.00	120.00
P 1176306	231.00	400.00	0.00	0.00
17 claims	$7885.00	$6800.00	$3267.00	$1085.00

STATEMENT OF COSTS

1. Direct Costs

Type	Description	Amount	Totals
Wages	Labour	$ 350.00	
	Field Supervision		$ 350.00
Contractor's and Consultant's Fees	Prospecting	$ 900.00	
	Geology	$1200.00	
	Flag grid, microscopy	$1500.00	
	Report, maps	$1200.00	$4800.00
Supplies Used	Assays	$ 181.36	
	Gas, propane	$ 466.29	
	Thin sections	$ 93.57	$ 741.22
Equipment Rental	Boat, motor	$ 680.00	$ 680.00
		Total Direct Costs	$ 6 571.00

2. Indirect Costs

Type	Description	Amount	Totals
Transportation	Vehicle	$1 140.00	$1 140.00
Food and Lodging		$ 837.00	$ 837.00
		Subtotal of Indirect Costs	$1 977.00
		Amount Allowable (not greater than 20% of direct costs)	$1 314.00
		Total Value of Assessment Credit	$6 571.00 $1 314.00 $7 885.00

Ontario Ministry of Northern Development and Mines

After Recording Claim

Mining Act

W9160.00268

MNG LANDS

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, 159 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 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.

Recorded Holder(s): William E Brereton		Client No.: 111858
Address: 44 Hazelwood Ave Toronto, Ont, M4J2K5		Telephone No.: (416) 461-6103
Mining Division: Porcupine	Township/Area: Huffman Twp	M or G Plan No.: G-3232
Dates Work Performed — From: May 13/91	To: Oct 30/91	

Work Performed (Check One Work Group Only)

Work Group	Type
Geotechnical Survey	Geological Survey, Prospecting, Petrography
Physical Work, Including Drilling	
Rehabilitation	
Other Authorized Work	
Assays	
Assignment from Reserve	

RECEIVED
MAR 0 3 1992
MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs $ 7885.00

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)

Name	Address
W. E. Brereton	as above

(attach a schedule if necessary)

RECORDED
DEC 17 1991
Receipt

Certification of Beneficial Interest * See Note No. 1 on reverse side

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.

Date: Dec 13/91

Recorded Holder or Agent (Signature): W E Brereton

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 Certifying: W. E. Brereton

Telepone No.:

Date: Dec 13/91

Certified By (Signature): W E Brereton

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder
$ 7,885	DEC. 17/91	D. White
	Deemed Approval Date: MAR 16/92	Date Approved: March 9, 1992
	Date Notice for Amendments Sent	

Received PORCUPINE MINING DIVISION
RECEIVED
DEC 17 1991
1:30 PM

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	1170407	1	$464	$400	0	64
	1170414	1				
	1176292	1				
	293	1				
	294	1				
	295	1				
	296	1				
	297	1				
	298	1				
	299	1				
	300	1				
	301	1				
	302	1				
	303	1				
	304	1				
	305	1				
	1176 306	1	$464 461	$400	0	461
	17	Total Number of Claims	7885 Total Value Work Done	6800 Total Value Work Applied	0 Total Assigned From	1088 Total Reserve 1085

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. ☐ 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 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:

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

Signature

Date

03/91)

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction: W9160.00268

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.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	350	
	Field Supervision Supervision sur le terrain		350
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type: prospecting	900	
	geology	1200	
	flagging, miscellaneous work	1500	
	report, maps	1200	4800
Supplies Used Fournitures utilisées	Type: assays	181.36	
	gas, propane	466.29	
	Hip Sections	93.57	
			741.22
Equipment Rental Location de matériel	Type: boat, motor	(680)	
			680
	Total Direct Costs / Total des coûts directs		6571

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.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type: vehicle	1140	
	boat, motor	(680)	
			1820
Food and Lodging Nourriture et hébergement		837	837
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs / Total partiel des coûts indirects		2657
	Amount Allowable (not greater than 20% of Direct Costs) / Montant admissible (n'excédant pas 20 % des coûts directs)		1314
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect Costs) / Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)		7885

RECORDED
DEC 17 1991
Recorded

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.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
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:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

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.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

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 (Recorded Holder, Agent, Position in Company) I am authorized

to make this certification

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 _____ (titulaire enregistré, représentant, poste occupé dans la compagnie) je suis autorisé

à faire cette attestation.

Signature: [signature] Date: Dec 13/91

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé

Work Report Number for Applying Reserve	Claim Number (see Note 2)	[illegible]	Value of Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	1172[illegible]0		[illegible]	[illegible]		
	117041[illegible]		[illegible]	[illegible]00		
	1176292		0	[illegible]00		
	293		0	400/[illegible]		
	294		1/2 232	400/168		
	295		1/2 232	400/168		
	296		763	400	363	120
	297		763	400	363	121
	298		763	400	363	121
	299		763	400	363	121
	300		763	400	363	121
	301		763	400	363	120
	302		1/2 232	400/168		
	303		763	400	363	120
	304		763	400	363	120
	305		763	400	363	120
	176306		1/2 231	400/169		
	17		$7885.00	6800	3267	1085 / 1085
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

0241 (03/91)

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Signature	Date

Ministère du Développement du Nord et des mines

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

CORRECTED COPY

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Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type prospecting	900	
	geology	1200	
	flagging, micro, line work	1500	
	report, maps	1200	4800
Supplies Used Fournitures utilisées	Type assays	181.36	
	gas, propane	466.29	
	Hin Sections	93.57	
			741.22
Equipment Rental Location de matériel	Type boat, motor	680	
			680
	Total Direct Costs / Total des coûts directs		6571

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.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type 3000 km @ $0.38/km vehicle	1140	
	boat, motor	680	
			1140 1820
Food and Lodging Nourriture et hébergement		837	837
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs / Total partiel des coûts indirects		1977 2657
	Amount Allowable (not greater than 20% of Direct Costs) / Montant admissible (n'excédant pas 20 % des coûts directs)		1314
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect Costs) / Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)		7885

RECORDED
DEC 17 1991
Receipt

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Total Value of Assessment Credit	Total Assessment Claimed
x 0.50 =	

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.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
x 0,50 =	

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I hereby certify:
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Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
	Dec 13/91

12 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY

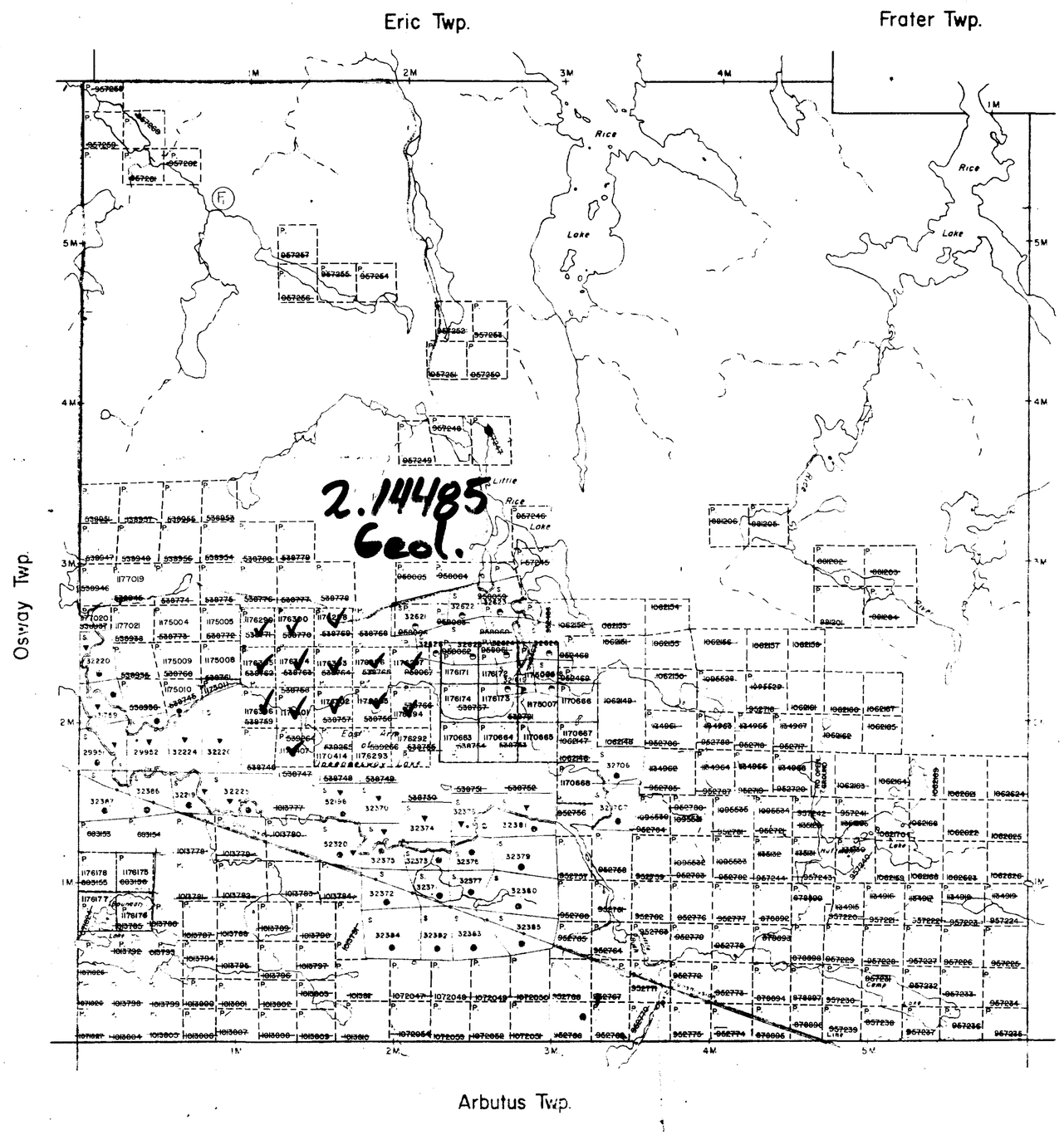
S.R.O. – SURFACE RIGHTS ONLY

M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File

(F) THIS TWP. IS SUBJECT TO FOREST ACTIVITIES IN 1991. FURTHER INFORMATION AVAILABLE ON FILE.

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	◓
" , MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	▬
" , MINING RIGHTS ONLY	▬
LICENCE OF OCCUPATION	♥
ORDER-IN-COUNCIL	OC
RESERVATION	R
CANCELLED	●
SAND & GRAVEL	R

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970 CHAP 380, SEC 63, SUBSEC 1

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 200 1000 (1 KM) 2000 (2 KM)

TOWNSHIP

HUFFMAN

M.N.R. ADMINISTRATIVE DISTRICT

CHAPLEAU

MINING DIVISION

PORCUPINE

LAND TITLES / REGISTRY DIVISION

SUDBURY

PLACED IN ACTIVE FILE MARCH 3/1989

Ministry of Natural Resources — Land Management Branch — Ontario

Date	Number
MARCH 1985	G-3232

LEGEND

8 Diabase

5 Subvolcanic felsic intrusive / pyroclastic complex
- 5c sheared, sericitic felsic feldspar porphyry
- 5F foliated chloritic felsic feldspar porphyry
- 5m massive felsic feldspar porphyry
- 5p felsic feldspar porphyry tuff-breccia

3 Volcanic sediments
- 3a mafic conglomerate
- 3b felsic conglomerate / pyroclastic
- 3c chlorite schist?, chlorite-sericite schist

1 Mafic volcanics
- 1b foliated mafic flows

- rock outcrop
- geologic contact
- foliation (dip known, unknown)
- Os'81 selected grab sample & metal values (Oswny Explor., 1981)
- OP-91-05 grab sample, 1991
- diamond drill hole
- bush road
- swamp
- trench
- claim post (located)
- EM conductor (F- Falconbridge, 1971; O- Oswny, 1981)

Cu- copper, Pb- lead, Zn- zinc, Au- gold, Ag- silver
py - pyrite, sil - silicified, carb - carbonatized
(MM) - magnetic attraction, ov- over burden trench

mature spruce, jackpine

thick cedars

spruce, alder, cedar bush

mixed spruce, cedar, alder bush

mixed spruce bush, no t/c

cedars

heavy cedars

mixed bush, no t/c

thick mixed bush, no t/c

large blocks

Camp

Gaffney showing area, Cu, Pb, Zn, Au, Ag

old over burden pits & trenches

Smith Au-qtz zone

Au-qtz zone, sil, ser py carb

old ddh this area? logs indicate S.3

old ddh?

ddh?

DREEPEESWAY LAKE

1176299 1176300 1176298 1176303 1176304 1176305 1176306 1176301 1176302 1176294 1176295 1176296 1176247 1176292 1176293 1170414 1170407

P- patented claims
S- staked claims

Little Rice Lake

East Arm Dreepeesway Lake

Ont.

Manitoba

Location Map
1" = 1/2 mi

Oswny Twp

Huffman Twp

GEOLOGY OF THE DREEPEESWAY LAKE PROPERTY
HUFFMAN TOWNSHIP
ONTARIO

0 200 400 600 800
Feet

P. 14485

October, 1991
W.E. Brereton P.Eng.