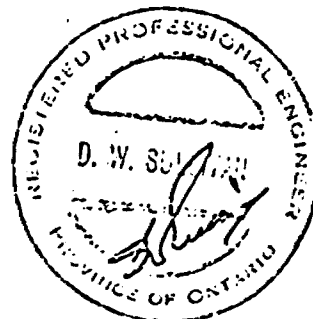




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REPORT
ON
DIAMOND DRILLING
OF
PUKASKWA RIVER PROPERTY
FOR
INTERNATIONAL BIBIS TIN MINES LTD.



April 10, 1967
Toronto, Ontario

D. W. Sullivan, B.Sc., P.Eng.
F.G.A.C.

SECRET

REPORT
ON
DIAMOND DRILLING
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FOR
INTERNATIONAL BIBIS TIN MINES LIMITED

SUMMARY AND CONCLUSIONS

In the summer of 1966 a promising copper showing was located 40 miles northwest of Wawa, Ontario. Initial samples taken from a mineralized and silicified shear zone gave assays of .90%, 1.42% and 1.94% copper. Following this a programme of trenching was carried out and six bulk samples were taken from six trenches along a strike length of 350 feet. These samples gave values ranging between a low of 0.42% to 2.01% and represented sample widths which varied from 5 feet to 14 feet, and in some places mineralization extended over a width of approximately 30 feet.



This work was under the direction of Mr. S. Walsberg, P.Eng.

A very limited amount of self-potential surveying was carried out over a strike length of approximately 1,200 feet which outlined anomalous zones corresponding to the shear zone.

On the strength of the above work the discovery most definitely warranted further exploration by drilling.

The discovery is located on a slight embayment in a very interesting magnetic anomaly which lies immediately to the north. Dip needle readings taken on this by Mr. Walsberg indicated the presence of magnetic iron formation, and a grab sample taken from this formation gave an assay of 31.9% iron containing low sulphur, phosphorous and titanium values. No work was done on the iron formation during the drill programme carried out between January and March 1967; however, it is recommended by the writer that this iron formation be explored further especially with respect to the very interesting copper occurrence on the south flank of this magnetic anomaly. (See geophysics paper No. 2165G, 42 $\frac{C}{4}$).

The drill programme recently completed involved the drilling of seven holes along a strike length of 500 feet along the mineralized copper-bearing silicified shear zone.

The total footage drilled in the seven holes was 2,238 feet. Interesting copper values were obtained at depths of 100 to 210 feet vertically below surface and were obtained in

SCU

all holes except hole PK-7.

Of considerable interest here is the fact that the copper values were obtained in a very wide mineralized silicified shear zone between rhyolite and andesite rocks which is a good geological environment for the deposition of base metal sulphides.

Since the recent drilling indicated the presence of interesting values in copper throughout the strike length drilled, and since the wide mineralized shear zone is still open along the strike from the southeast to the northwest would indicate that the area requires further geophysical and geological exploration before more drilling is contemplated.

It is therefore recommended that a careful review be made of the drill results to date and that the property be geologically mapped following which the information should be fully assessed by a geophysicist who could then recommend a proper geophysical method to be carried out over this very interesting showing and other known sulphide showings occurring to the north and to the south of the copper zone drilled.

PROPERTY

The mining property consists of fifty-four (54) unpatented mining claims located in the Fukaskwa River area, District of Thunder Bay, Sault Ste. Marie Mining Division of Ontario.

They are known more precisely as follows:

SSM 80846 to 80861 inclusive	--	16	claims
SSM 81156 " 81172	" --	17	"
SSM 81505 " 81522	" --	18	"
SSM 81714 " 81716	" --	3	"
		<u>54</u>	
TOTAL		54	claims

LOCATION AND ACCESS

The property is located approximately 40 miles slightly north of west of Wawa, Ontario on Highway #17.

This highway passes approximately 30 miles to the northeast.

A privately owned lumber road extends from Highway #17 to Iron Lake a distance of 15 miles from the property. Lakes suitable for chartered aircraft are few and the nearest lake from which the area can be serviced is 4 miles west of the property. A helicopter was used to transport the drilling equipment and fuel from the end of the road at Iron Lake to the property.

A new hydro line is being constructed between Highway #17 and the property.

GEOLOGY

There are no detailed government maps or reports on the immediate area; however, map #1958B, the Geological Map of Ontario, indicates that the property is located on the western end of the long greenstone belt and it is reliably reported that



Intrusive rocks are present about 1/2 to 3/4 miles to the southeast of the showing and a small outcrop of diorite occurs south and west of the area drilled. These intrusives were not seen due to the heavy cover of snow during the past winter when the drilling was being carried out.

The drilling has indicated that the principal rock types are rhyolite, intermediate andesite lavas to massive andesite with the occasional tuff horizon. In places the andesites are highly sheared and altered to chlorite. Where the andesites are silicified, there is a considerable amount of quartz occurring as masses and narrow veins. The entire volcanic sequence is mineralized with pyrite and chalcopyrite with heavier concentrations of chalcopyrite occurring in silicified breccia in both the rhyolite and andesite rocks or along the contact between these two important rock types. The general strike of the silicified mineralized shear zone is approximately north 60° west with a very steep dip to the north. The mineralized shear zone appears to coincide with a strong fault which is very noticeable on the aerial photographs of the area and which appears to run for some considerable distance to the northwest and southeast along a small creek. It is therefore recommended that this area be thoroughly explored by geological mapping and geophysics since better concentrations of copper mineralization could be present along this zone.



DISCUSSION OF DRILL RESULTS

Seven holes were completed for a total of 2,238 feet and varied in depth from 269 to 426 feet. The strike length drilled off was 500 feet.

The drilling indicated that the mineralized shear zone is still open along strike to the northwest and to the south-^{EAST} west although the copper values obtained in hole PK-7 were very low in copper. Values in gold and silver were insignificant.

A drill plan, sections and logs accompany this report.

Hole PK-1

Drilled to a depth of 300 feet. A mineralized section was obtained from 140.0' to 157.5' within which was a 10' section from 140' to 150' which assayed 0.91% Cu at a vertical depth of 100'.

Hole FK-2

Drilled 100 feet from PK-1 to 307 feet. Fine pyrite, and very minor chalcopyrite was present in the rhyolite from 17' to 76'. A mineralized zone in the andesite occurred from 131' to 166.7' (35.7') with copper values up to 0.44% (85). A better mineralized zone was present from 176.0' to 200.0' (24.0') which returned 1.12% Cu across 20.0' of core length.

Hole PK-3

Drilled 100 feet west of PK-2 to a depth of 269

? ← 0.59 in 690 ft



feet. A mineralized zone was cut from 120.8' to 150.0' (29.2') which gave values up to 0.92% Cu. A third mineralized zone containing pyrite and chalcopyrite occurred from 198.0' to 218.0' (20.0'). Within this latter section was 1.15% Cu across 10.5' of core length at a vertical depth of 150 feet and below a possible fault.

There appears to be two separate copper-bearing zones within a wide weakly mineralized sulphide zone in holes PK-2 and PK-3.

Hole PK-4

Drilled 100 feet west of PK-3 to a depth of 316 feet. Mineralized from 156.0' to 185.0' (29.0') below a fault zone. Within this zone was a section assaying 1.03% Cu across 8.5' of core length at a vertical depth of 110 feet. The structure is still open northwest of this hole.

Hole PK-5

Drilled to 376 feet between holes PK-2 and PK-3 but was designed to cut the zone at a deeper horizon. The core was mineralized from 218' to 324' (106.0'). A section from 286.0' to 302.0' (16.0') assayed 1.47% Cu across 16.0' of core length at a vertical depth of 210 feet.

It is important to note that the pyrite and chalcopyrite mineralization occurs over a much greater width than the

preceding shallower holes and contains higher grade copper.

(See section and log.)

Hole PK-6

Drilled under PK-2 to 426 feet. Very fine pyrite mineralization occurred from 38.0' to 315.0' (277.0'). The values were very low in copper.

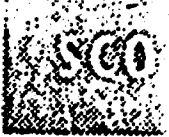
Hole PK-7

Drilled 200 feet east of hole FK-1 to a depth of 244 feet. This was the last hole in the programme and was planned to see if the mineralized zone carried on the southeast. The core was weakly mineralized with pyrite and traces of chalcopyrite from 62.0' to 99.0' (37.0'). Very low values in copper were obtained but traces of sphalerite were present from 84.0' to 94.0' (10.0') which might prove to be interesting in future exploration.

The important features here are the still present mineralized zone coincident with a long, strong surface lineament and the appearance of low values in zinc, (0.22%).

CONCLUSIONS AND RECOMMENDATIONS

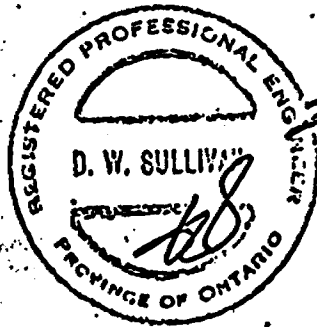
The drilling has indicated the presence of important amounts of copper mineralization in a wide pyrite mineralized zone in a favourable zone which extends for a strike length of 500 feet. Values extend from surface to a vertical depth of over



or structural conditions which may indicate a favourable relationship of the copper deposition to the iron formation.

Respectfully submitted,

SCCPE MINING & EXPLORATION
CONSULTANTS LIMITED



D. W. Sullivan, P. Eng.

April 10, 1967
Toronto, Ontario

Note - No pg. 9.



42C03NE0017 42C04NE0016A1 PUKASKWA RIVER

900

DRILL LOGS AND CROSS SECTION FOR HOLES PK-1 TO PK-7 ARE
RECORDED IN FILE 42C/04NE-0010-A1

PUKASKWA RIVER

1" = 40 CHAINS

SM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
691746	691756	691592	691593	691610	691611	691628	691629	691653	691654	691665	691681	691682	691638	691639	691604
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
91747	691756	691591	691594	691609	691612	691627		691652	691655	691666	691680	691683	691637	691603	691605
SM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
91748	691757	691590	691595	691608	691613	691626	691631	691651	691656	691667	691679	691684	691636	691602	691606
SM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
91749	691578	691589	691596	691607	691614	691625	691632	691650	691657	691668	691678	691685	691635	691601	691607
SM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
91750	691579	691588	691597	691606	691615	691624	691640	691649	691658	691669	691677	691686	691634	691600	691608
SM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
11751	691580	691587	691598	691605	691616	691623	691641	691648	691659	691670	691676	691687	691633	691599	691609
SM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
11752	691581	691586	691599	691604	691617	691622	691642	691647	691660	691671	691675	691688	691632	691598	691610
SM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
11753	691582	691585	691600	691603	691618	691621	691643	691646	691661	691672	691674	691689	691631	691597	691611
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
11754	691583	691584	691601	691602	691619	691620	691644	691645	691662	691663	691673	691682	691630	691596	691612
SM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
2813	691412	691413	691432	691433	691452	691453	691532	691533	691548	691549	691567	691568	691590	691595	691613
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
2814	691411	691414	691431	691434	691451	691454	691531	691534	691547	691550	691566	691569	691591	691594	691614
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
815	691410	691415	691430	691435	691450	691455	691530	691535	691546	691551	691565	691570	691592	691593	691624
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
816	691409	691416	691429	691436	691449	691456	691529	691536	691545	691552	691564	691571	691615	691623	691625
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
817	691408	691417	691428	691437	691448	691457	691528	691537	691544	691553	691563	691572	691616	691622	691626
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
98	691407	691418	691427	691438	691447	691446	691518	691527	691538	691543	691554	691562	691573	691617	691621
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
399	691406	691419	691426	691439	691446	691519	691526	691634	691635	691637	691561	691574	691618	691620	691628
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
400	691405	691420	691425	691440	691445	691520	691525	691538	691543	691555	691560	691575	691577	691619	721924
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
1401	691404	691421	691424	691441	691444	691521	691524	691539	691542	691556	691559	691576	721936	721928	721923
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
1402	691403	691422	691423	691442	691443	691522	691523	691540	691541	691557	691558	721937	721935	721926	721922
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
866	721865	721858	721857	721850	721849	721842	721841	721834	721833	721826	721825	721938	721927		
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
867	721864	721859	721856	721851	721848	721843	721840	721835	721832	721827	721944	721939	721933	721928	721920
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
868	721863	721860	721855	721852	721847	721844	721839	721836	721831	721828	721943	721940	721932	721929	721918
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM
869	721862	721861	721854	721853	721846	721845	721838	721837	721830	721829	721942	721941	721931	721930	721919
M	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM	SSM

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