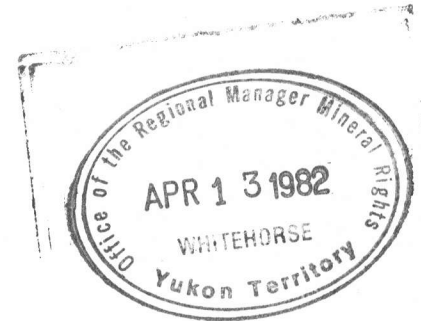




SAWYER CONSULTANTS INC.

*2nd copy
received Whitehorse
April 13/82*



REPORT
on the
1981 EXPLORATION PROGRAM
on the
TOWER CLAIMS
Whitehorse Mining District, Yukon

for

B.A. COPPER MINES LTD.

091007

SEPTEMBER 3rd, 1981



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Yukon Territory

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This report has been examined by
the Geological Exploration Unit
under Section 58 (4) Yukon Quartz
Mining Act and is shown as
representation work in the amount
of \$ 3,900-

for *A. Macken*
Regional Geologist, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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INTRODUCTION

In a report dated October 30th, 1979, the writer recommended a limited first stage exploration program for the Tower claims, located in the Big Salmon Lake area of Yukon, owned by B.A. Copper Mines Ltd. Earlier exploration dating from the 1950's in the same area had indicated that known asbestos occurrences were not of commercial value thus the limited program recommended was aimed essentially at investigating the copper mineralization and related copper staining which had been noted by a prospecting team working on the property during the 1979 field season.

Sawyer Consultants Inc. was retained to conduct the recommended initial exploration program during the 1981 field season. The program was carried out in the period June 22nd, 1981 to July 15th, 1981. This report describes the work program completed and its results, and is prepared at the request of the President of B.A. Copper Mines Ltd.

SUMMARY

A preliminary exploration program consisting of line cutting, geological mapping, and geochemical soil sampling was carried out on the Tower Claim Group, located north of Big Salmon Lake in the Whitehorse Mining District of Yukon, by personnel of Sawyer Consultants Inc. in the period June 22nd to July 15th, 1981. The geological mapping of the property in general confirmed the geological picture as previously established from the published geological maps. Locally, minor copper mineralization, development of some non-commercial low quality asbestos fibres, and some quartz veining and silicification has been mapped and sampled. The tenor of mineralization in general is quite low although one chip sample across 20 metres in altered volcanics did return an assay of 2.5% copper. This occurrence is in an area where earlier trenching had been carried out and this relatively high assay is thought to be due, most probably, to extensive malachite staining over the weathered and exposed trench faces. A small chalcocite vein does occur in the area but other than this sulphide mineralization is generally meager.

On the more easterly part of the property a zone of silicification and quartz veining with associated minor sulphide mineralization was mapped and sampled. The surface samples again returned only very low values.

Geochemical soil sampling was restricted somewhat by extensive areas of outcrop, scree, and swamp particularly in the more westerly and southerly parts of the claim group. On the more easterly parts of the claim group limited zones of above threshold values in copper and in zinc, in part coincident, were detected. These lie immediately west of and downdip from the zone of silicification and minor sulphide mineralization, and at this stage the possibility of there being a relationship between the two cannot be ruled out. Even though the tenor of mineralization in the exposed areas is very low, a limited amount of additional fill-in geochemical soil sampling in this area is recommended along with some further sampling and trenching. This latter supplementary work can probably be achieved relatively quickly and within the limits of the originally estimated budget. Positive results from this limited further program would warrant a more detailed follow-up. Other than these occurrences no significant mineralized zones having obvious economic potential have been detected and on this basis no extensive further work program, beyond the limited recommendations noted above, is considered warranted.

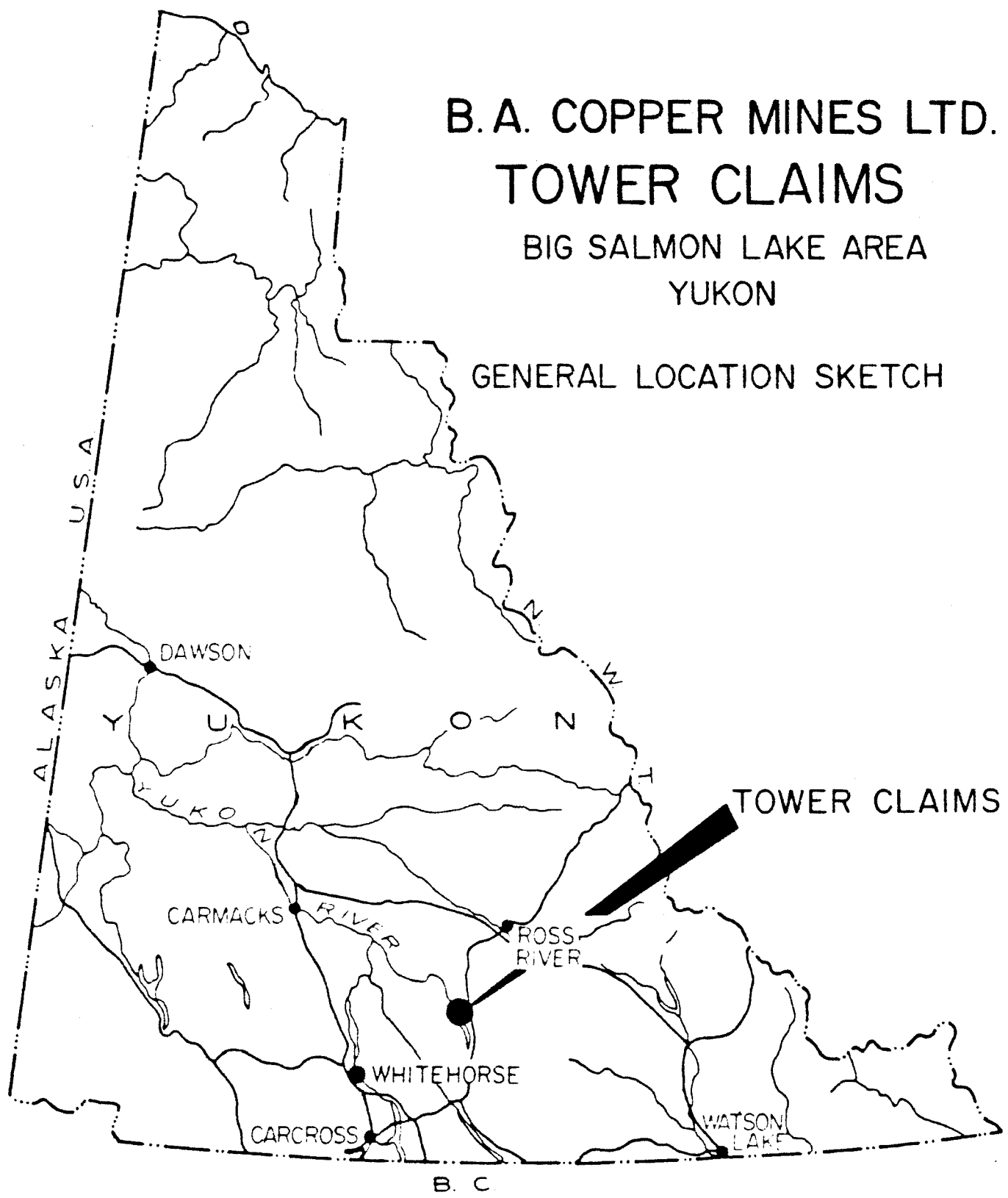
The cost of the program completed to date is in the order of \$27,000.00, some \$6,000.00 below the estimated cost.

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B. A. COPPER MINES LTD. TOWER CLAIMS

BIG SALMON LAKE AREA
YUKON

GENERAL LOCATION SKETCH



Scale: 1" = 80 miles (approximately)

Figure 1

LOCATION AND ACCESS

The claims lie along and to the north of the northern shore of the southeastern end of Big Salmon Lake and extend from the lake up the southwestern flank of Tower Peak which reaches an elevation of 5672 feet near the northern boundary of the claims. The Canol Road connecting Johnson's Crossing on the Alaska Highway with the village of Ross River lies some 6 miles to the east of the property. The City of Whitehorse is approximately 73 air miles to the southwest, and the village of Ross River is approximately 57 air miles to the northeast of the claims.

A bush road passable to 4-wheel drive vehicles connects the southeastern end of Big Salmon Lake and the Tower claims property with the Canol Road. This road was used for access to the camp site during the 1981 field season.

The area of the claim group is within the boundaries of topographic map sheet 105F, Quiet Lake, in the 1:250,000 series, however the topographic map in the 1:50,000 series for this particular area, 105F/6, is not yet published. [The claim sheet on a scale of 1" = $\frac{1}{2}$ mile shows the topographic contours.]

PHYSIOGRAPHY

The property is located on the southwestern flanks of Tower Peak, a prominent peak in the area. Elevations vary from about 3000 feet along the lake shore at the southern boundary to 5672 feet at the summit of Tower Peak in the northwestern part of the claim group. At the lower elevations around the lake vegetation consists predominantly of coniferous trees, spruce, pine, etc., but at the higher elevations vegetation is limited to grasses and a few small scruffy spruce. The area is relatively well drained by Fish Creek which flows to the east of the property and several small unnamed creeks draining into Big Salmon Lake. The higher parts of the property are characterized by extensive scree and boulder areas.

Gradients on the slopes of Tower Peak vary from moderate to steep and at higher elevations, for example those parts of the property lying between 14+00N and 19+00N, relief becomes locally rugged.

PROPERTY AND OWNERSHIP

The property consists of 39 mineral claims named Tower 1-24 inclusive having Grant Nos. YA23937-YA23960 inclusive, and Tower 26-40 inclusive having Grant Nos. YA23962-YA23976 inclusive, staked under the Yukon Quartz Mining Act in the period January 21st to January 24th, 1979. These claims were recorded in the Whitehorse Mining District, Yukon, on January 29th, 1979, in the names of the stakers, Armand Arsenault, C. Cote, Jim Sheldon, Bill Van Fleet, and Jeff Sheldon. The claims were transferred by Bill of Sale to B.A. Copper Mines Ltd. on July 11th, 1979.

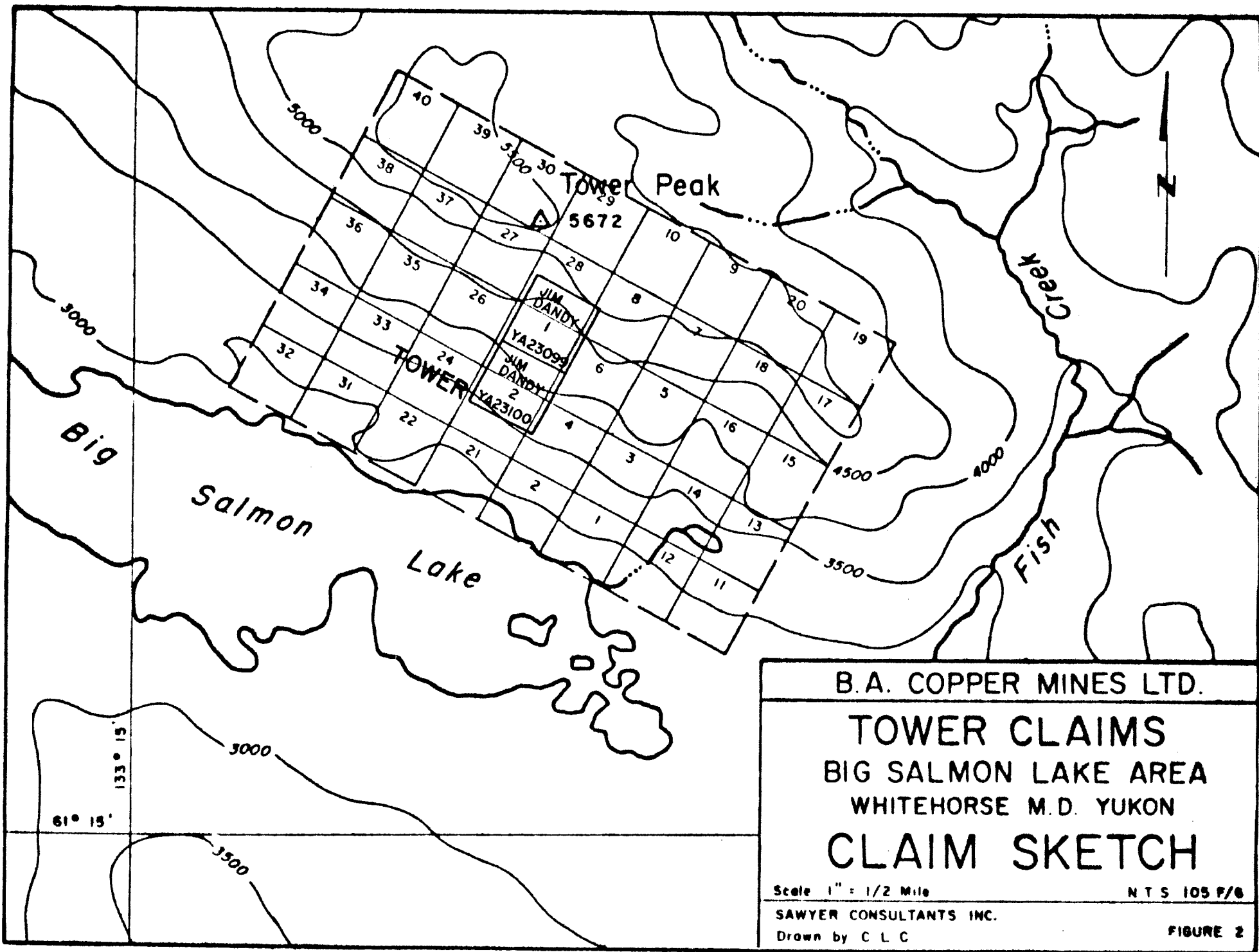
The claim block covers two previously existing claims, Jim Dandy 1 and Jim Dandy 2, which appear to coincide in part with claims Tower 23 and 28. By right of prior recording the area within the boundaries of the two Jim Dandy claims is not a part of the Tower claims. However, we are advised by the Whitehorse District Mining Recorder that the Jim Dandy claims lapsed on August 8th, 1981. The following table summarizes the pertinent claim data.

Claim	Grant No.	Date Staked	Date Recorded	Expiry Date
Tower 1-8 inc.	YA23937-YA23944	21/1/79	29/1/79	29/10/81
Tower 9-16 inc.	YA23945-YA23952	21/1/79	29/1/79	29/10/81
Tower 17-24 inc.	YA23953-YA23960	22/1/79	29/1/79	29/10/81
Tower 26-32 inc.	YA23962-YA23968	23/1/79	29/1/79	29/10/81
Tower 33-40 incl.	YA23969-YA23976	24/1/79	29/1/79	29/10/81

All are in the Whitehorse Mining District, Yukon.

The claims are shown on Yukon Claim Sheet 105F/6 on a scale of 1" = $\frac{1}{2}$ mile.

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PREVIOUS WORK

Prospecting and general exploration work has been carried out by a number of companies and individuals in the Big Salmon Lake area in the past, principally in the period 1955 to the mid-1960's, however there is relatively little information on any detailed work carried out on the immediate area of the present Tower claims. In addition, there are records in the Whitehorse Mining Recorder's office of several other groups of claims having been staked on which no work was recorded.

The Acme claims staked in 1954 or 1955 were located at the headwaters of Fish Creek about one mile to the north of the north boundary of the present Tower claims. Mapping on these claims, and on the Rex group of claims which adjoined to the west, defined belts of ultrabasic rocks, - gabbro, amphibolite, and serpentinized peridotite, - flanking a belt of carbonate rocks which appear to extend across Caribou Creek towards the Acme claims overlying rocks mapped as Yukon series. The carbonate rocks are described as being a magnesium carbonate derived from the peridotite, which weathers rusty brown colour. Apparently one diamond drill hole was put down to a depth of 302 feet on the Acme claims in 1955, however there is no drill log or other descriptive data from this work on file.

The most detailed work appears to have been done on the Rex group of claims by Asbestos Corporation (Exploration) Ltd. in 1955. This work was carried out as a follow-up to reported occurrences of chrystotile asbestos on the Acme claims which adjoin to the east of the Rex and on the Trout group of claims which lay to the west. Mapping done by Asbestos Corporation showed the Rex group to be underlain by basic and ultrabasic rocks and metamorphic rocks derived from these intrusives as a part of a west-northwest trending belt which parallels the valley of the Big Salmon River and lies just to the north of it. Much of the rock underlying the Rex claims was described as a rusty brown weathering magnesium carbonate derived from the peridotite. The only fresh peridotite outcrop in the area is reported to be located one mile to the southwest of the Rex claims down the Caribou Valley. Structurally it was suggested the intrusive rocks occupy the axis of an anticline and represent a normal series derived by gravitational differentiation of a basic magma. The resulting assemblage consisted of an overlying facies of gabbro and gabbro diorite with an underlying facies of peridotite and dunite, and a minor amount of pyroxenite between the two. The intense serpentinization of the ultrabasic rocks which was observed on the Tower claims, was also noted in this area. These workers found only one narrow vein of cross fibre asbestos in a boulder and only very few other fine fibres were noted. They report that the rocks immediately to the south and east of the Rex claims, i.e. in the area of the present Tower claims, appeared to be barren of good asbestos fibres.

There appears to be no other assessment work on record in Whitehorse with respect to work carried out on the Trout claims which lay to the west of the Rex claims but did not adjoin them, to the north-

west of the Caribou Creek. Further to the north along Caribou Creek work was carried out on the Caribou Creek claims of Iola Mines in 1966 and consisted of a gravity survey by United Geophysical Company of America. This work established a strong gravity anomaly on a small tributary of Caribou Creek to the west, on which R.B. Galeski recommended drilling. However, there is no record on file of whether or not any drilling was ever done.

To the east of the northeastern corner of the present Tower claims work on a property consisting of the Hans 1-8, Barb 5-8, and Dog 1-4 claims, was carried out by Cominco Ltd. in May and June of 1964. This property was along the upper reaches of Fish Creek and probably extended at least in part onto the northeastern corner of the present Tower claims. Work carried out was essentially a reconnaissance ground magnetometer survey to locate and detail a strong airborne anomaly. The ground survey indicated five anomalies all occurring along the contact of the ultramafic rocks with the overlying volcanics. The report notes that asbestos mineralization observed was weak, and further work was not recommended at that time. The geology mapped conformed essentially to the general picture outlined above.

More recently, work consisting of bulldozer trenching carried out by a local prospector in June of 1968 is on file in the Whitehorse Mining Recorder's office however this report gives no details of any geology, or mineralization uncovered.

REGIONAL GEOLOGY

The property lies in the Quiet Lake map sheet for which geological map 7-1960 by Wheeler, Green & Roddick (1960) has been published by the Geological Survey of Canada. More recent work in this map area by Templeman-Kluit (1977) has added to the earlier mapping and revised the interpretations somewhat. The results of Templeman-Kluit's work have been published as Geological Survey of Canada Open File 486. Reference to this Open File map shows that the Tower claims property can be divided on a regional basis, and probably also on a local property basis, into two distinct terrains. The two represent two separate blocks separated by a thrust plane, the trace of which trends northwesterly and divides the Tower Claim Group approximately into southern one-third and northern two-thirds sections. South of the thrust plane and in the area around Salmon Lake and to the south, the rocks are part of a series of Silurian and lower Devonian sediments of the Nacina facies which include recessive dark grey to black weathering thin bedded and platy, calcareous and dolomitic graphitic siltstones, and minor black slates with lenses of resistant dolomitized laminated mudstones and sandstones, etc. To the north of the thrust plane the rocks are part of the eugeoclinal assemblage of the Anvil-Campbell Allochthon and consist of dark weathering dark green amphibolites, greenstones, and altered basalts, gabbros, etc., as well as more basic, generally more resistant, brown weathering rocks including dunite, peridotite, and pyroxenite and their serpentized equivalents.

L E G E N D

ANVIL-CAMPBELL ALLOCHTHONOUS ASSEMBLAGE

CARBONIFEROUS AND PERMIAN (POSSIBLY OLDER)

- CPAv Resistant, dark grey weathering, massive, dark green aphanitic basalt and minor augite porphyry
- CPAub Resistant dun brown weathering dunite, peridotite and pyroxenite and serpentinized equivalents
- CPAs Yellow green weathering serpentinized peridotite and pyroxenite

AUTOCHTHONOUS AND PARAUTOCHTHONOUS ROCKS

PELLY-CASSIAR PLATFORM

UPPER DEVONIAN AND MISSISSIPPIAN

- uDMs Black recessive weathering, with rusty streaks, thin bedded black siliceous slate with minor interbedded chert grain greywacke and chert granule grit

SILURIAN AND LOWER DEVONIAN

NACINA FACIES

- OSDgc Recessive, dark grey to black weathering thin bedded and platy, calcareous and dolomitic graphitic siltstone with minor black graphitic slate

SANDPILE GROUP

- Sdq Interbedded, white weathering, resistant, medium bedded, light grey, algal laminate and sparry dolomite, orthoquartzite and sandy dolomite
- Sq Silvery white weathering, resistant, medium bedded, medium-grained mature orthoquartzite commonly with dolomitic cement, minor interbedded sandy dolomite

SILURIAN

- Ss Tan weathering, thin bedded to platy, dolomitic siltstone and silty dolomite

PROTEROZOIC AND/OR LOWER CAMBRIAN

- pIGs Buff weathering muscovite biotite schist; garnet mica quartz schist and micaceous quartzite with minor amphibolite

Regional Geology of
Big Salmon Lake-Tower Peak Area
Yukon

[Part of Open File Map 486 by
D.J. Templeman-Kluit, 1977]

Scale: 1 inch = 4 miles



Figure 3

There are several mineral occurrences within the general map area and one or two in the immediate area of the Tower claims. These latter essentially are the asbestos showings referred to earlier which were the subject of serious investigation in the 1950's and '60's with generally negative results.

1981 WORK PROGRAM

Work Completed

The work program completed includes line cutting to establish a control grid, geological mapping including some rock sampling, and geochemical soil sampling. The work was carried out by a field crew of one geologist and two field assistants. A senior geologist of Sawyer Consultants Inc. spent a limited time on the property at commencement and completion of the field program.

Line Cutting

A total of 4.2 kilometres of base line were cut, chained and picketed, and 31.8 kilometres of grid lines were chained and flagged. The base lines were oriented roughly parallel to the claim location lines, i.e. magnetic north-south, and the grid lines were run at a spacing of 200 metres at right angles to the base lines. Stations were flagged along all of the picket lines at 60 metre intervals. The work was carried out under contract by Ashworth Explorations Ltd. Map 1 accompanying this report is a plan of the control grid covering the Tower claims.

Geochemical Soil Sampling

The soil sampling program was intended to give as complete a coverage as possible over the entire grid, so that wherever possible soil samples were collected at the 60 metre stations on all of the grid lines. However, in a number of places, for example on the scree and boulder slopes and in areas of outcrop or swamp, it was found impossible to collect suitable soil material. In fact a total of 274 samples were collected into Kraft envelopes appropriately marked with line and station number.

The samples were taken using a mattock at depths of from 8 to 12 inches. Wherever soil profiles are sufficiently well developed B-horizon material was collected. In swampy areas it was necessary to go much deeper, up to 18 inches perhaps, to get good soil material and in areas near extensive outcrop the soil cover is much thinner, of the order of only a few inches. The samples were submitted to the laboratories of Barringer Magenta Ltd. in Calgary where they were analysed for total copper, lead, and zinc content. Maps 3, 4, and 5 are plots of the values of total copper, lead, and zinc respectively in these soils. Values are recorded in parts per million and the overall values for each metal have been treated in standard statistical manner to give threshold values. Calculated threshold values are as follows:

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Copper threshold	=	77 ppm
Lead threshold	=	39 ppm
Zinc threshold	=	279 ppm

The plotted values have been contoured at contour intervals corresponding to threshold (mean + 2 x standard deviation), and at values of mean + 4 x standard deviation, mean + 8 x standard deviation, etc. where appropriate.

Results

In general terms only the eastern half of the property permitted any degree of consistent coverage. On the more westerly and northerly parts of the property extensive scree slopes and outcrop areas rendered soil sample collection impossible. Some anomalous values in copper and in zinc were detected but no values above the lead threshold were recorded.

Referring to Map 3, the soil sampling plan for copper, it can be seen that there is a zone extending discontinuously from about 9N to 18N between chainages 26E and 31E approximately. Three separate roughly north-south trending bands of higher values occur from line 10N to approximately 14N. These values when contoured represent the most consistent area of above threshold values although even the highest value is only approximately twice threshold. In the rest of the property the only other area where several anomalous values occur is on the westerly portion of line 22N above an extensive cliff and talus area, and below the outcrop area which forms the peak of the mountain. Along this part of the line a total of 11 samples were above threshold however lack of soil cover prevented collection of any soil material to the south thus the significance of these values is questionable. Line 22N is the north boundary of the property.

Reference to Map 4, the soil sampling plan for lead, reveals a fairly uniformly low concentration of lead in the soils with not a single value above the threshold value of 39 parts per million. It may or may not be significant that the highest values on the entire grid and also the most consistent area of relatively higher values, in the range generally of 10-15 ppm lead with a high of 23 ppm lead, occur from lines 12N to 16N and from chainages roughly 27E to 33E, i.e. roughly coincident with the general area of the higher copper values.

Reference to Map 5, the soil sampling plan for zinc, shows some fairly broad zones of anomalous values in the easternmost one-third of the grid between 10N and 15N, and from approximately 22E to 34E. This zone is thus in part coincident with, but broader than, the zone of anomalous copper values. Elsewhere on the grid there are several isolated values above threshold as well as a suggestion of a possibly anomalous zone extending from approximately 17E to 21E on lines 8N and 10N, i.e. immediately southwest of the broader zone of anomalous values described above. We note that there are no anomalous zinc or lead values corresponding to the anomalous copper values on the westerly part of line 22N.

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Geological Mapping

The geological mapping was carried out by Mr. F. Yacoub, a geologist of Sawyer Consultants Inc., in the period June 24th to July 12th, 1981. The picket line grid was used for control in this work, traverses being made along all of the picket lines and at intermediate points as dictated by outcrop occurrences. Map 2 accompanying this report is a geological map, on a scale of 1:4000, based on this work. In conjunction with the geological mapping, a total of 19 chip and channel samples were taken in areas of mineralization or of other geological significance. These samples were analysed by Barringer Magenta Limited and the sample locations and numbers are plotted on the geological map. The assay results are tabulated in Table 1. Copies of the assay reports from Barringer Magenta Limited are included as Appendix 1.

Results

The property geology of the Tower Claim Group as mapped by Mr. Yacoub confirms essentially the broader regional picture as it applies to this area.

The Tower claims are underlain by two major groups of rocks, as follows:

- (a) an essentially sedimentary or metasedimentary assemblage of slates, sandstones, and phyllitic rocks;
- (b) basic to ultrabasic volcanic and intrusive rocks which, in places, are extensively serpentinized.

A considerable area of the property, particularly to the west and north-west is occupied by large exposed outcrop areas or areas of near outcrop. In the western and southwestern parts of the property extensive boulder fields and scree slopes obscure the bedrock geology. The rocks which make up these boulder fields are predominantly basic volcanic types. The area to the east and west of the boulder field is wet and swampy so that essentially there are no definitive outcrops in the southern part of the property. In broad terms the basic volcanic rocks underlie the northern two-thirds of the property, and to the south of these in the more southeasterly third the bedrock is composed of the metasedimentary units. In all probability these same metasedimentary units extend westwards across the southern one-third of the property but the extensive boulder fields described above, and the general lack of outcrop in the swamps make it impossible to define the bedrock conditions more precisely.

The following descriptions of the rock units are supplied by Mr. F. Yacoub.

The igneous rocks occurring on Tower Peak consist mainly of coarse, altered, basic volcanics together with pyroxenites and other ultrabasic types and metadiorites. The pyroxenites have been partly or completely serpentinized and some of these serpentinized ultrabasics form the more resistant outcrops on Tower Peak. The fresh volcanics are massive, greenish-grey coloured, of medium to fairly coarse grain generally. Weathered surfaces are mottled and reddish in colour.

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Sample No.	A S S A Y						Description
	Barringer Ag ppm	Magenta Ag Equiv. oz/ton	Au ppm	Au Equiv. oz/ton	Cu ppm	Cu Equiv. %	
51379	L0.1	L0.003	L0.01	L0.0003	-	-	Chip sample across 75 cms. (=29.53ins.) from silicified zone at BL #1, 115+00N.
51380	L0.1	L0.003	L0.01	L0.0003	-	-	Channel sample across group of quartz veins at 14+00N; 11+50E.
51381	L0.1	L0.003	L0.01	L0.0003	-	-	Chip sample across 50 cms. (=19.68ins.) in quartz-carbonate zone at 18+50N; 14+20E.
51382	L0.1	L0.003	L0.01	L0.0003	-	-	Channel sample of 7 cms. (=2.76 ins.) quartz vein striking 030°, vertical, at 16+00N; 10+60E. Very minor pyrite.
51383	L0.1	L0.003	L0.01	L0.0003	-	-	Channel sample across 20 cms. (=7.87 ins.) of quartz vein with some pyrite. Vein strikes 030°, vertical, at 16+00N; 10+60E.
51384	L0.1	L0.003	L0.01	L0.0003	-	-	Channel sample of barren quartz vein across 30 cms. (=11.81ins.) at 16+00N; 10+60E.
51385	L0.1	L0.003	L0.01	L0.0003	-	-	Channel sample across 12 cms. (=4.72 ins.) barren quartz vein, at 16+00N; 10+60E.
51386	L0.1	L0.003	0.13	0.004	-	-	Chip sample from highly altered green wallrock adjacent to three quartz veins at 16+00N; 10+60E.
51387	L0.1	L0.003	0.01	0.0006	-	-	Channel sample across 17 cms. (=6.69 ins.) width of quartz vein with minor sulphides. Vein strikes 030°, vertical, at 16+00N; 10+20E.
51388	L0.1	L0.003	L0.01	L0.0003	223	0.022	Chip sample across 15 m. (=49.2 ft.) from zone of altered meta-diorite with malachite staining. At 16+00N; 10+00E.
51389	0.1	L0.003	L0.01	L0.0003	103	0.01	Chip sample across 10 m. (=32.81ft.) in altered, rusty zone in green volcanics at 13+00N; 15+40E.
51390	1.1	L0.032	L0.01	L0.0003	25,400	2.5	Chip sample across 20 m. (=65.62ft.) in altered zone of green volcanics with malachite staining. At 13+20N; 16+20E.
51391	L0.1	L0.003	L0.01	L0.0003	920	0.092	Chip sample across 10 m. (=32.81ft.) of serpentinized rock with little malachite. At 14+00N; 16+80E.
51392	L0.1	L0.003	L0.01	L0.0003	186	0.0186	Chip sample across 5 m. (=16.40ft.) of serpentinized rock at 13+50N; 16+00E.
51393	0.3	0.009	L0.01	L0.0003	-	-	Channel sample across several quartz veins, total width 55 cms. (=21.65ins.). At 14+25N; 35+00E.
51394	0.5	0.015	L0.01	L0.0003	-	-	Chip sample across 3 m. (=9.84 ft.) in altered, silicified green volcanics at 14+25N; 35+00E.
51395	0.1	0.003	L0.01	L0.0003	-	-	Channel sample across several quartz veins, total width 55 cms. (=21.65ins.) at 14+20N; 35+00E.
51396	0.1	0.003	L0.01	L0.0003	-	-	Channel sample across 200 cms. (=78.74ins.) in quartz vein with minor galena at 14+00N; 35+20E.
51397	0.1	0.003	L0.01	L0.0003	-	-	Channel sample across 170 cms. (=66.93ins.) in quartz vein, at 14+00N; 35+20E.

L = Less than

Other ultra basic rocks include peridotite and dunite in which basic plagioclase and olivine are prominent constituents. These rocks when completely serpentinized are lighter greenish coloured on fresh surface and brownish coloured, possibly due to high magnesium content, on weathered surfaces. In some areas, particularly around the asbestos showings, these rocks are highly fractured and broken up. Where the asbestos is best developed serpentinization, as would be expected, is intense having completely affected most of the rocks. Two prominent fracture or joint directions were noted in these more strongly fractured and serpentinized rocks at 330° t. with dip to the northeast; and at 085° t. with a southerly dip.

The contact between the volcanic/ultrabasic assemblage and the sedimentary assemblage to the south is a regional thrust fault along which locally intense deformation and development of medium grade metamorphic mineral assemblages was noted.

Most of the rocks of the sedimentary or metasedimentary package on the Tower claims are slates, generally dark coloured, and thin bedded exhibiting typical slaty cleavage. In places coarser grained rocks, probably slaty siltstones or fine grained dark sandstones, also occur, and in one locality some development of such secondary features as graded bedding and cross bedding was noted. Also along the contact zone in some places there appears to have been developed a tectonic intercalation between greenstones and sedimentary members, and in these zones also some of the more slaty rocks appear to carry rounded inclusions of slaty siltstone or sandstone fragments. The sedimentary rocks have a generally northerly dip varying from 14° to 70° , the lower angles probably more nearly representing the general regional dip and the locally steeper dips resulting probably from tectonic movement.

Mineralization noted in the property area includes asbestos, copper, and late stage quartz veining and silicification. The asbestos occurrences occur in generally highly serpentinized dark coloured rocks between lines 12N and 13N on the Jim Dandy #1 claim. The asbestos occurrences appear to be quite restricted in area representing very local isolated development of generally poor quality fibres. These occurrences are considered to be of no commercial interest.

There is on the upper part of the property an old tractor road along which some trenching was done in earlier years. Mineralization exposed in these trenches includes some small chalcocite veinlets in the green volcanic rocks occurring to the northeast of the asbestos showings and some more extensive areas of malachite staining. No fresh chalcopyrite or other sulphide mineralization was noted. The malachite staining is exposed over several metres in these bulldozer trenches. Chip samples Nos. 51389 to 51392 inclusive were collected from these trenches. For detailed descriptions and assay results from these samples the reader is referred to Table 1 which shows that gold and silver values were generally insignificant in all of the samples but all of them did show some copper content and one of them, sample 51390, which was a chip sample across 20 metres of the altered green volcanics which carry malachite staining, returned an assay of 25,400 ppm which is equivalent

to 2½% copper. Although this sample was taken over a considerable width, the high copper value can probably be attributed in part to the narrow chalcocite veinlet and in part to the extensive malachite staining, the latter being much more extensive than the actual chalcocite vein itself.

In the general area 14+20N, 35+00E, there is a fairly large zone of siliceous alteration comprised of several stages of steeply west dipping quartz veins which carry weakly disseminated pyrite, chalcopyrite, and in one location some minor galena. The quartz veining and silicification occurs over a width of about 3½ metres. Samples 51393 to 59397 inclusive are channel and chip samples taken across these quartz veins. For detailed descriptions of the samples and results see Table 1. In general they returned insignificant values in gold and silver.

In general terms sulphide mineralization in the ultramafic rocks is absent or very minor, the asbestos showings being the only mineral occurrences associated with these rocks.

DISCUSSION AND CONCLUSIONS

No obvious areas of strong mineralization having the potential for development into mining situations occur within the claim boundary although some copper mineralization is associated with the basic volcanic rocks on the northern part of the property, and one zone of silicification and alteration with minor associated sulphides was mapped near the eastern boundary of the property in the vicinity of 13N; 35E.

Referring to the former area, some bulldozer trenches have been excavated in this area in the past and as noted above a small veinlet of chalcocite is exposed in these volcanic rocks. In the adjacent area fairly extensive malachite staining has been developed which, in our opinion, has probably produced the single high copper assay detected amongst the several samples taken (sample 51390). The lack of extensive primary copper sulphide mineralization in the area, except for the small chalcocite veinlet, suggests that this zone has limited potential and we find it difficult to recommend extensive further work. It might however be worthwhile to attempt to expose some fresher rock in this general area and to carry out more detailed sampling in the vicinity of the earlier sample 51390 to determine whether this mineralization may have more potential than is apparent at the present time.

The altered and silicified zone at around 13N; 35E is just east of the area of above background zinc and copper soil geochemical values, and it may be of interest that this silicified zone where exposed has a westerly dip. Again, the assay results from the five or so samples collected from this zone show only very minor gold and silver values although all of the samples did exhibit some silver content. The occurrence of this zone of alteration and of the broadly defined geochemically anomalous zone in zinc and copper to the west would perhaps warrant a limited amount of further investigation. We would suggest that initially

such further work would involve fill-in geochemical soil sampling on the lines between those already sampled and some trenching in the area in an attempt to determine bedrock conditions underlying these higher values. If this limited follow-up work similarly yields anomalous results then some more extensive trenching or stripping and perhaps a limited amount of geophysical work, such as VLF-EM surveying, might be warranted.

As already mentioned the asbestos showings are not considered to be of any commercial value and no further investigation of these is warranted. Similarly little or no significant mineralization appears to occur within the sedimentary or metasedimentary assemblage, and no members of the acid volcanic group of rocks which elsewhere in the Quiet Lake map area are associated with sulphide mineralization appear to occur on the Tower claims property.

In broad terms then no extensive further work would appear to be justified. A very limited amount of additional geochemical and prospecting work, perhaps with some hand trenching, would serve to resolve the facts in the two zones of limited mineralization noted with a greater degree of certainty. This limited further work could probably be carried out in two or three days within the limits of the original budget estimate. The program of geochemical sampling, line cutting and geological mapping described above has been completed under the originally estimated budget cost.

RECOMMENDATIONS

Based on the foregoing descriptions of the 1981 work program and its results the following recommendations are made.

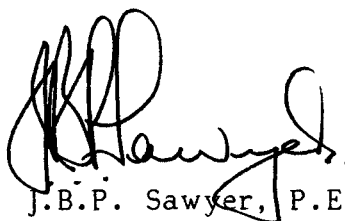
- (1) No continuing large scale exploration program on the Tower claims is warranted.
- (2) Although the mineralization associated with basic volcanic rocks in the area of the old tractor road on the northern part of the property is probably of very limited extent and unlikely to be developed into an economically viable mining situation, some further detailed sampling and an attempt to expose fresher rock could be carried out. It would serve to verify the potential of this mineralization with greater certainty.
- (3) A limited amount of fill-in geochemical sampling on intermediate lines 9N, 11N, 13N, 15N, and 17N, i.e. between previously sampled lines, from 22E eastwards to 36E, would serve to amplify the geochemical data in the area of above background zinc/copper values which, as we have noted earlier lie to the west, i.e. downdip, from the altered and silicified zone in which minor sulphide mineralization was observed.

In conjunction with this additional sampling, some attempts to reach bedrock by hand pitting should be made to determine the nature of the bedrock below these anomalous geochemical values.

- (4) If the results of this fill-in geochemical sampling are positive some more extensive investigation of these zones would be warranted probably involving additional trenching and/or some geophysical work.
- (5) We have noted earlier that only one line, 22N, was sampled west of Baseline 1. To the south of this line there is little or no soil cover in the area of extensive cliffs and outcrops and the property boundary lies immediately north of the line. However several of the values in copper along line 22N between 0+00E and Baseline 1 are above threshold, and while this may simply be a reflection of local very thin soil cover and/or due to hydromorphous effects along the small creek in this vicinity, it would be useful to sample one or two additional lines, say at 23N and 24N, to attempt to back up or otherwise clarify the significance of the above threshold values in copper on line 22N. This additional sampling would only be warranted if a crew was going to be in the area to carry out the other recommendations. The work is not considered of sufficiently high priority to justify a separate trip and mobilization of personnel to the area itself.

Respectfully submitted,

SAWYER CONSULTANTS INC.



J.B.P. Sawyer, P.Eng.

SAWYER CONSULTANTS INC.

CERTIFICATE

I, Fayz F. Yacoub, DO HEREBY DECLARE:

- (1) That I am a graduate in Geology and Chemistry of Assuit University, Egypt (B.Sc. 1967), and Mining Exploration Geology of the International Institute for Aerial Survey and Earth Sciences (I.T.C.), Holland (Diploma 1978).
- (2) That I have practised within the geological profession for the past seven years.
- (3) That the information, opinions and recommendations in the attached report are based on personal observations made during mapping of the Tower claims in the period June 24th to July 12th, 1981.
- (4) That I own no interest in the shares or securities of B.A. Copper Mines Ltd. or the subject property, nor do I expect to receive any such interest.



Fayz F. Yacoub

Dated at Vancouver, British Columbia, this 3rd day of September, 1981.

CERTIFICATE

I, T.E. Gregory Hawkins, DO HEREBY CERTIFY:

- (1) That I am a Consulting Geologist, of Sawyer Consultants Inc., with business offices at 1201 - 675 West Hastings St., Vancouver, British Columbia, V6B 1N2.
- (2) That I am a graduate in geology of The University of Alberta, Edmonton (B.Sc. 1973), and of McGill University, Montreal (M.Sc. 1979).
- (3) That I have practised within the geological profession for the past twelve years.
- (4) That I am a Fellow of the Geological Association of Canada.
- (5) That the information and opinions contained in the attached report are based on personal observations made on the Tower claims property on June 23rd, 1981, and in the period July 11th-12th, 1981, and on general review and discussion of the results of the work program with Messrs. F.F. Yacoub, and J.B.P. Sawyer, of Sawyer Consultants Inc.
- (6) That I own no interest in the shares or securities of B.A. Copper Mines Ltd. or the subject property, nor do I expect to receive any interest.



T. Greg Hawkins, F.G.A.C.

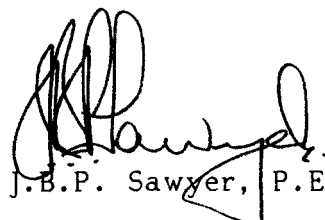
Dated at Vancouver, British Columbia, this 3rd day of September, 1981.

SAWYER CONSULTANTS INC.

CERTIFICATE

I, J.B.P. Sawyer, DO HEREBY CERTIFY:

- (1) That I am a consulting geologist with business office at 1201 - 675 West Hastings St., Vancouver, B.C., V6B 1N2, and President of Sawyer Consultants Inc.
- (2) That I am a graduate in geology of Manchester University (B.Sc. - 1953) and of the University of Western Ontario (M.Sc. - 1957).
- (3) That I am a Registered Professional Engineer (geological) in the Association of Professional Engineers of the Province of British Columbia, and a Registered Chartered Engineer with the Council of Engineering Professions, London.
- (4) That I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining & Metallurgy, a Fellow of the Geological Society of London, and Fellow of the Institution of Mining & Metallurgy, London.
- (5) That I have practised my profession as a geologist for the past twenty-six years.
- (6) That the information, opinions and recommendations in the attached report are based on personal planning of the work program, and interpretation of the geological and geochemical data, on personal knowledge of the Tower claims area gained from work on the property in 1979, and on general knowledge of the geology of the Quiet Lake map area gained from field work over a period of seven or eight years. I was not personally on the property during the 1981 work program but have reviewed the data collected by Messrs. T.G. Hawkins and F.F. Yacoub, both geologists of Sawyer Consultants Inc., and have discussed the results with them in detail.
- (7) That I own no interest nor do I expect to receive any interest in the Tower claims or in the shares or securities of B.A. Copper Mines Ltd.


J.B.P. Sawyer, P.Eng.

Dated at Vancouver, British Columbia, this 3rd day of September, 1981.

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LIST OF REFERENCES

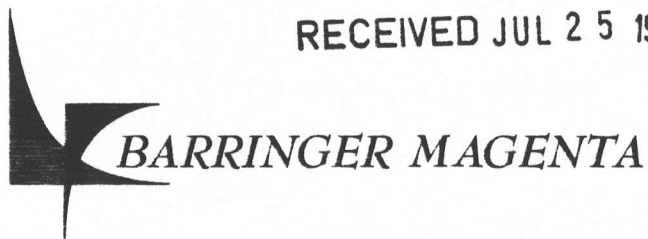
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APPENDIX 1

Barringer Magenta Assay Reports

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 PAGE 1 OF 10
 WORK ORDER #: 1720-81

AUTHORITY: F. YACCOUB

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 VANCOUVER, B.C.,
 V6B 1N2

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

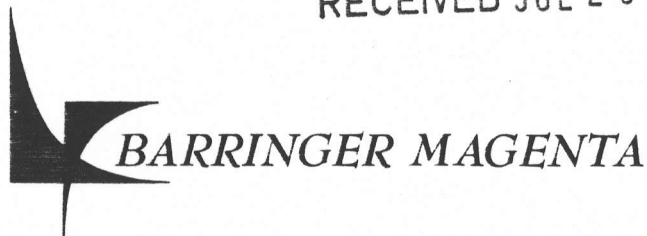
SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
0+00N			
0+00E	16.	7.	52.
0+60E	25.	10.	62.
1+20E	20.	8.	33.
1+80E	9.	3.	20.
2+40E	31.	10.	450.
4+80E	78.	11.	90.
5+40E	32.	N D	53.
7+80E	22.	4.	32.
8+40E	17.	8.	39.
9+00E	34.	10.	40.
11+40E	19.	9.	22.
13+20E	24.	7.	57.
27+60E	8.	4.	59.
28+20E	12.	7.	71.
28+80E	7.	3.	27.
29+40E	14.	6.	185.
30+00E	13.	5.	64.
30+60E	10.	6.	145.
31+20E	12.	4.	47.
32+40E	8.	3.	36.
33+00E	6.	2.	39.
33+60E	12.	4.	71.
34+20E	12.	6.	75.
34+80E	15.	6.	64.
35+40E	11.	5.	150.
36+00E	4.	2.	31.
10+00N			
0+00E	28.	N D	94.
4+80E	26.	3.	50.
6+00E	85.	N D	28.

*P=QUESTIONABLE PRECISION; *I=INTERFERENCE; *Z=POSTED AS Z; T=TRACE; ND=NOT DETECTED; NA=NOT ANALYZED; IS=INSUFFICIENT SAMPLE; MS=MISSING SAMPLE

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G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
10+00N			
13+20E	64.	ND	38.
14+40E	43.	8.	325.
16+80E	25.	3.	205.
17+40E	60.	9.	205.
18+00E	45.	10.	270.
18+60E	43.	12.	270.
21+00E	40.	12.	315.
21+60E	22.	11.	235.
22+20E	35.	14.	270.
22+80E	59.	12.	255.
24+00E	32.	28.	280.
24+60E	20.	10.	220.
25+20E	20.	8.	315.
25+80E	43.	9.	190.
27+00E	120.	12.	290.
27+60E	58.	8.	190.
28+80E	95.	10.	220.
29+40E	95.	8.	225.
30+00E	90.	9.	240.
30+60E	50.	8.	150.
31+20E	95.	9.	285.
31+80E	80.	10.	200.
36+00E	65.	12.	330.
12+00N			
22+80E	42.	7.	260.
23+40E	92.	8.	275.
24+00E	18.	6.	300.
24+60E	8.	3.	68.
25+20E	30.	16.	490.
26+40E	20.	5.	190.

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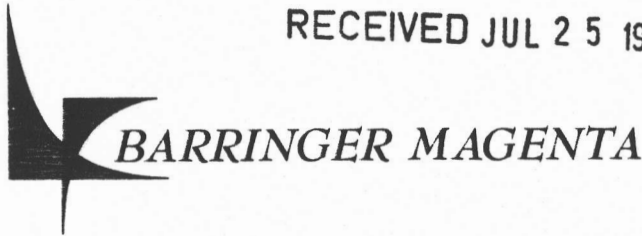
G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
12+00N			
27+00E	19.	5.	190.
27+60E	94.	11.	450.
28+20E	55.	13.	205.
28+80E	100.	13.	260.
29+40E	14.	9.	270.
30+00E	30.	10.	120.
30+60E	40.	11.	285.
31+20E	26.	9.	520.
31+80E	120.	12.	220.
32+40E	15.	12.	230.
33+00E	23.	10.	100.
33+60E	18.	7.	39.
34+20E	50.	15.	185.
34+80E	50.	15.	62.
36+00E	48.	27.	53.
14+00N			
22+20E	23.	4.	300.
22+80E	30.	8.	630.
23+40E	28.	8.	335.
24+00E	18.	3.	345.
25+80E	23.	6.	200.
26+40E	19.	2.	310.
27+00E	54.	7.	330.
27+60E	51.	10.	485.
28+20E	50.	6.	310.
28+80E	40.	10.	240.
29+40E	60.	13.	350.
30+00E	135.	13.	415.
30+60E	90.	8.	350.
31+20E	45.	12.	570.

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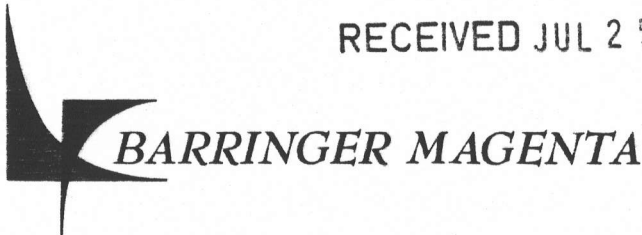
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G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
14+00N			
31+80E	26.	12.	610.
33+00E	20.	10.	350.
33+60E	35.	18.	1350.
34+20E	40.	23.	590.
36+00E	34.	13.	365.
16+00N			
22+80E	30.	6.	52.
24+60E	19.	6.	49.
25+20E	50.	5.	43.
25+80E	47.	4.	43.
26+40E	145.	5.	44.
27+00E	31.	3.	31.
28+20E	34.	8.	64.
29+40E	9.	N D	10.
30+60E	50.	9.	145.
32+40E	60.	11.	150.
33+00E	45.	10.	160.
33+60E	48.	11.	190.
18+00N			
22+80E	40.	4.	38.
23+40E	20.	N D	18.
24+60E	40.	4.	62.
25+80E	30.	2.	34.
26+40E	50.	3.	51.
27+00E	90.	4.	67.
29+40E	110.	6.	42.
30+60E	18.	N D	32.
31+80E	24.	4.	50.
32+40E	28.	13.	84.
33+00E	34.	16.	92.

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G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
18+00N			
33+60E	33.	15.	85.
34+20E	31.	16.	89.
34+80E	37.	20.	97.
35+40E	31.	16.	87.
36+00E	33.	17.	93.
2+00N			
0+00E	9.	2.	39.
0+60E	25.	4.	10.
1+20E	9.	5.	350.
2+40E	9.	7.	64.
3+00E	8.	1.	34.
3+60E	8.	2.	40.
4+20E	10.	2.	27.
4+80E	34.	10.	195.
6+60E	97.	N D	44.
16+20E	40.	3.	85.
16+80E	42.	N D	45.
17+40E	12.	4.	46.
18+00E	33.	9.	88.
18+60E	11.	6.	91.
19+20E	24.	6.	44.
21+00E	50.	8.	400.
22+80E	13.	5.	85.
23+40E	24.	6.	160.
24+00E	46.	12.	195.
24+60E	20.	9.	94.
25+20E	16.	6.	65.
25+80E	10.	6.	94.
26+40E	35.	8.	95.
27+00E	18.	9.	54.

*P=QUESTIONABLE PRECISION; *I=INTERFERENCE; *Z=POSTED AS Z; T=TRACE; ND=NOT DETECTED; NA=NOT ANALYZED; IS=INSUFFICIENT SAMPLE; MS=MISSING SAMPLE



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V6B 1N2

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G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
2+00N			
27+60E	12.	4.	82.
28+20E	28.	6.	285.
28+80E	65.	10.	220.
29+40E	83.	13.	300.
30+00E	12.	3.	55.
30+60E	8.	5.	53.
31+20E	8.	3.	45.
31+80E	13.	4.	54.
32+40E	10.	3.	27.
33+00E	9.	4.	51.
33+60E	9.	3.	40.
34+20E	10.	4.	71.
34+80E	14.	2.	38.
35+40E	10.	2.	27.
36+00E	14.	3.	78.
22+00N			
0+00E	105.	2.	58.
0+60E	140.	2.	55.
1+20E	165.	N D	57.
3+00E	135.	N D	38.
4+20E	105.	N D	40.
4+80E	110.	N D	52.
5+40E	145.	N D	70.
6+00E	97.	N D	55.
6+60E	105.	N D	67.
7+80E	105.	N D	64.
8+40E	100.	N D	60.
9+00E	105.	N D	76.
9+60E	39.	N D	41.
10+80E	75.	1.	79.

*P=QUESTIONABLE PRECISION; *I=INTERFERENCE; *Z=POSTED AS %; T=TRACE; ND=NOT DETECTED; NA=NOT ANALYZED; IS=INSUFFICIENT SAMPLE; MS=MISSING SAMPLE



RECEIVED JUL 25 1981

BARRINGER MAGENTA

BARRINGER MAGENTA LIMITED
OFFICES & MINERALS
LABORATORY:
3750 - 19th ST., N.E., SUITE 105
CALGARY, ALBERTA T2E 6V2
PHONE: (403) 276-9701
TELEX: 03-827584

AUTHORITY: F. YACOB

23/JUL/81
PAGE 7 OF 10
WORK ORDER # 1720-81

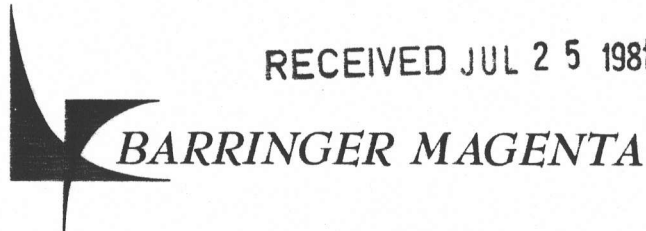
SAWYER CONSULTANTS INC.,
1201 - 675 WEST HASTINGS ST.,
VANCOUVER, B.C.,
V6B 1N2

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
22+00N			
11+40E	47.	1.	49.
12+00E	57.	1.	49.
12+60E	61.	2.	37.
13+20E	60.	4.	51.
13+80E	50.	3.	50.
14+40E	38.	4.	45.
15+00E	38.	2.	43.
15+60E	58.	1.	43.
16+20E	35.	1.	28.
16+80E	36.	4.	50.
17+40E	52.	3.	50.
18+00E	35.	5.	46.
18+60E	68.	3.	44.
19+20E	43.	4.	55.
19+80E	44.	3.	46.
20+40E	45.	3.	51.
21+00E	31.	3.	36.
4+00N			
0+00E	9.	6.	185.
0+60E	20.	5.	260.
1+20E	10.	7.	220.
1+80E	11.	3.	190.
2+40E	10.	5.	180.
3+00E	12.	5.	210.
3+60E	12.	8.	100.
4+20E	9.	4.	71.
4+80E	13.	7.	42.
5+40E	12.	6.	79.
6+00E	18.	2.	45.
6+60E	17.	3.	170.



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BARRINGER MAGENTA LIMITED
 OFFICES & MINERALS
 LABORATORY:
 3750 - 19th ST., N.E., SUITE 105
 CALGARY, ALBERTA T2E 6V2
 PHONE: (403) 276-9701
 TELEX: 03-827584

23/JUL/81
 PAGE 8 OF 10
 WORK ORDER # 172C-81

AUTHORITY: F. YACOB

SAWYER CONSULTANTS INC.,
 1201 - 675 WEST HASTINGS ST.,
 VANCOUVER, B.C.,
 V6B 1N2

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

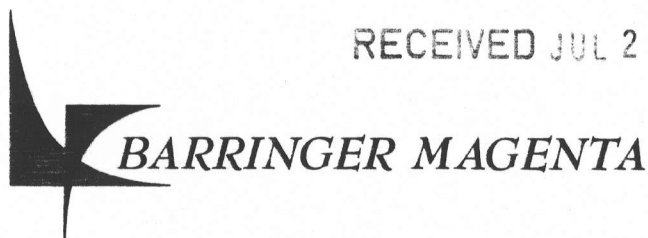
SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
4+00N			
14+40E	57.	N D	56.
15+00E	21.	N D	60.
15+60E	28.	5.	208.
16+20E	10.	3.	12.
16+80E	14.	5.	38.
17+40E	16.	7.	140.
18+00E	9.	7.	89.
18+60E	36.	9.	270.
19+20E	55.	11.	210.
19+80E	8.	5.	160.
20+40E	5.	5.	34.
21+00E	12.	6.	82.
21+60E	20.	42.	64.
22+20E	7.	6.	58.
22+80E	15.	5.	66.
23+40E	35.	6.	48.
24+00E	18.	4.	36.
24+60E	12.	2.	34.
25+20E	8.	4.	18.
25+80E	21.	3.	36.
26+40E	21.	4.	42.
27+00E	20.	3.	39.
27+60E	23.	3.	41.
28+80E	10.	2.	32.
30+00E	6.	2.	28.
30+60E	7.	2.	42.
31+20E	11.	3.	66.
31+80E	8.	3.	49.
32+40E	10.	3.	41.
33+00E	12.	4.	45.

*P=QUESTIONABLE PRECISION; *I=INTERFERENCE; *%=POSTED AS %; T=TRACE; ND=NOT DETECTED; NA=NOT ANALYZED; IS=INSUFFICIENT SAMPLE; MS=MISSING SAMPLE

RECEIVED JUL 25 1981

BARRINGER MAGENTA LIMITED
 OFFICES & MINERALS
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 3750 - 19th ST., N.E., SUITE 105
 CALGARY, ALBERTA T2E 6V2
 PHONE: (403) 276-9701
 TELEX: 03-827584



23/JUL/81
 PAGE 9 OF 10
 WORK ORDER # 1720-81

AUTHORITY: F. YACOB

SAWYER CONSULTANTS INC.,
 1201 - 6/5 WEST HASTINGS ST.,
 VANCOUVER, B.C.,
 V6B 1N2

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

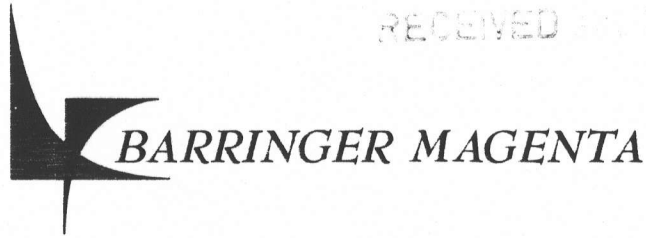
SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
4+00N			
33+60E	12.	4.	59.
34+20E	11.	3.	74.
34+80E	12.	4.	97.
35+40E	9.	4.	56.
36+00E	17.	4.	44.
6+00N			
1+20E	46.	2.	140.
1+80E	28.	1.	92.
2+40E	68.	N D	75.
3+00E	60.	N D	65.
7+20E	57.	N D	40.
7+80E	75.	N D	70.
9+00E	310.	N D	34.
16+20E	14.	8.	155.
22+20E	26.	9.	92.
24+60E	15.	7.	85.
34+20E	18.	8.	37.
34+80E	8.	5.	35.
35+40E	25.	3.	48.
36+00E	28.	6.	50.
8+00N			
0+00E	16.	4.	98.
0+60E	18.	6.	160.
1+20E	13.	5.	190.
4+20E	18.	5.	110.
12+60E	95.	N D	37.
16+20E	36.	13.	240.
16+80E	100.	13.	310.
17+40E	105.	15.	355.
21+00E	11.	5.	78.

*P=QUESTIONABLE PRECISION; *I=INTERFERENCE; *Z=POSTED AS %; T=TRACE; ND=NOT DETECTED; NA=NOT ANALYZED; IS=INSUFFICIENT SAMPLE; MS=MISSING SAMPLE

RECEIVED JUL 25 1981

BARRINGER MAGENTA LIMITED
OFFICES & MINERALS
LABORATORY:
3750 - 19th ST., N.E., SUITE 105
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PHONE: (403) 276-9701
TELEX: 03-827584



AUTHORITY: F. YACOUB

23/JUL/81
PAGE 10 OF 10
WORK ORDER # 1720-81

SAWYER CONSULTANTS INC.,
1201 - 675 WEST HASTINGS ST.,
VANCOUVER, B.C.,
V6B 1N2

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
SOIL

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
B+00N			
21+60E	20.	6.	92.
22+20E	15.	6.	63.
22+80E	18.	5.	81.
23+40E	20.	9.	85.
24+00E	15.	3.	67.
24+60E	8.	3.	41.
25+20E	8.	3.	30.
25+80E	13.	5.	54.
26+40E	11.	5.	59.
27+00E	20.	6.	67.
27+60E	22.	8.	82.
28+20E	35.	12.	94.
28+80E	12.	3.	80.
29+40E	45.	10.	230.
30+00E	57.	9.	270.

RECEIVED JUL 25 1981



BARRINGER MAGENTA

BARRINGER MAGENTA LIMITED
OFFICES & MINERALS
LABORATORY:
3750 - 19th ST., N.E., SUITE 105
CALGARY, ALBERTA T2E 6V2
PHONE: (403) 276-9701
TELEX: 03-827584

AUTHORITY: F. YACOB

17/JUL/81
PAGE 1 OF 2
WORK ORDER # 161C-81

SAWYER CONSULTANTS INC.,
1201 - 675 W. HASTINGS ST.,
VANCOUVER, BC.

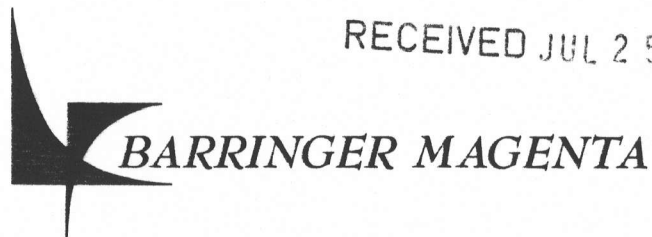
FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
ROCK CHIP

SAMPLE NUMBER	AG PPM	AU PPM
51379	<.1	<.01
51380	<.1	<.01
51381	<.1	<.01
51382	<.1	<.01
51383	<.1	<.01
51384	<.1	<.01
51385	<.1	<.01
51386	<.1	.13
51387	<.1	.02
51393	.3	<.01
51394	.5	<.01
51395	.1	<.01
51396	.1	<.01
51397	.1	<.01

RECEIVED JUL 25 1981



BARRINGER MAGENTA LIMITED
OFFICES & MINERALS
LABORATORY:
3750 - 19th ST., N.E., SUITE 105
CALGARY, ALBERTA T2E 6V2
PHONE: (403) 276-9701
TELEX: 03-827584

AUTHORITY: F. YACOB

17/JUL/81
PAGE 2 OF 2
WORK ORDER # 164C-81

SAWYER CONSULTANTS INC.,
1201 - 675 W. HASTINGS ST.,
VANCOUVER, BC.

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
ROCK

SAMPLE NUMBER	AG PPM	AU PPM	CU PPM
51388	<.1	<.01	223.
51389	<.1	<.01	103.
51390	1.1	<.01	25400.
51391	<.1	<.01	920.
51392	<.1	<.01	186.



SAWYER CONSULTANTS INC.

September 10th, 1981

B.A. Copper Mines Ltd.,
P.O. Box 1252,
Delta, B.C. V4M 3T3

in account with Sawyer Consultants Inc.

STATEMENT

Invoice dated June 30th, 1981	\$10,506.06
Invoice dated August 17th, 1981	12,530.79
Invoice dated September 10th, 1981	<u>3,692.23</u>
Total Costs re Tower Claims	\$26,729.08
B.A. Copper Cheque #56, June 1st, 1981	\$16,000.00
B.A. Copper Cheque #62, August 17th, 1981	8,000.00
B.A. Copper Cheque #68, August 18th, 1981	<u>3,000.00</u>
	\$27,000.00
Balance owing to B.A. Copper Mines Ltd. as per our cheque enclosed	<u>\$270.92</u>

091007

Suite 1201, The Royal Bank Bldg., 675 W. Hastings St., Vancouver, B.C. V6B 1N2 Phone: (604) 669-6363

700160



SAWYER CONSULTANTS INC.

June 30th, 1981

B.A. Copper Mines Ltd.,
P.O. Box 1252,
Delta, B.C. V4M 3T3

in account with Sawyer Consultants Inc.

To Professional Services.

Re: Initial Exploration Program, Tower Claims,
Whitehorse Mining Division, Yukon.

Period to June 30th, 1981.

J.B.P. Sawyer, P.Eng.		
2 days @ \$350.00/day		\$ 700.00
6 hours @ \$55.00/hour		330.00
T.G. Hawkins, Geologist		
3 days @ \$300.00/day		900.00
F. Yacoub, Geologist		
9 days @ \$175.00/day		<u>1,575.00</u>
	Sub Total	\$ 3,505.00

Disbursements:

Air fares YVR-YXY return		
4 men @ \$369.50	\$1,478.00	
J.B.P. Sawyer,		
split 50% of \$369.50	184.75	
	<u>\$1,662.75</u>	\$1,662.75
Expenses - J.B.P. Sawyer, as per attached		389.05
T.G. Hawkins, as per attached		253.75
Food Fair, Whitehorse		618.80
Ashworth Explorations Ltd. - sub contract		
Line cutting - partial		
20 km. @ \$130.00/km.	\$2,600.00	
2 km. @ \$185.00/km.	370.00	
Soil sampling - partial		
5 km. @ \$82.00/km.	410.00	
	<u>\$3,380.00</u>	3,380.00
J. Farquharson - office assistance		55.25
B.C. Telephone Co. - long distance calls		
as per attached copy of billing		<u>5.00</u>
Total Disbursements		\$6,364.60
10% on Disbursements		<u>636.46</u>
		<u>\$7,001.06</u>
		<u>7,001.06</u>
<u>Total Due to June 30th, 1981</u>		<u>\$10,506.06</u>



SAWYER CONSULTANTS INC.

August 17th, 1981

B.A. Copper Mines Ltd.,
P.O. Box 1252,
Delta, B.C. V4M 3T3

in account with Sawyer Consultants Inc.

To Professional Services.

Re: Initial Exploration Program, Tower Claims,
Whitehorse Mining District, Yukon.

Period July 1st-31st, 1981.

J.B.P. Sawyer, P.Eng.

Office hours to July 30th, 1981
12 hours @ \$60.00/hour

\$ 720.00

T. Greg Hawkins, F.G.A.C.

2 field days July 11th-12th, 1981
2 days @ \$300.00/day

600.00

Fayz F. Yacoub, Geologist

13 field days July 1st-13th, 1981
1 office day July 16th, 1981
14 days @ \$175.00/day

2,450.00

Sub Total

\$ 3,770.00

Disbursements as per attached

\$7,964.35

10% on Disbursements

796.44

\$8,760.79

8,760.79

Total Invoice

\$12,530.79

Balance on Hand June 30th, 1981

5,493.94

BALANCE OWING

\$7,036.85



SAWYER CONSULTANTS INC.

September 10th, 1981

B.A. Copper Mines Ltd.,
P.O. Box 1252,
Delta, B.C. V4M 3T3

in account with Sawyer Consultants Inc.

To Professional Services.

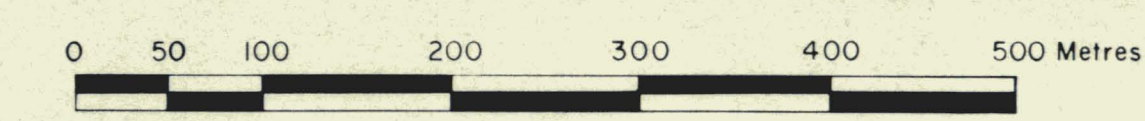
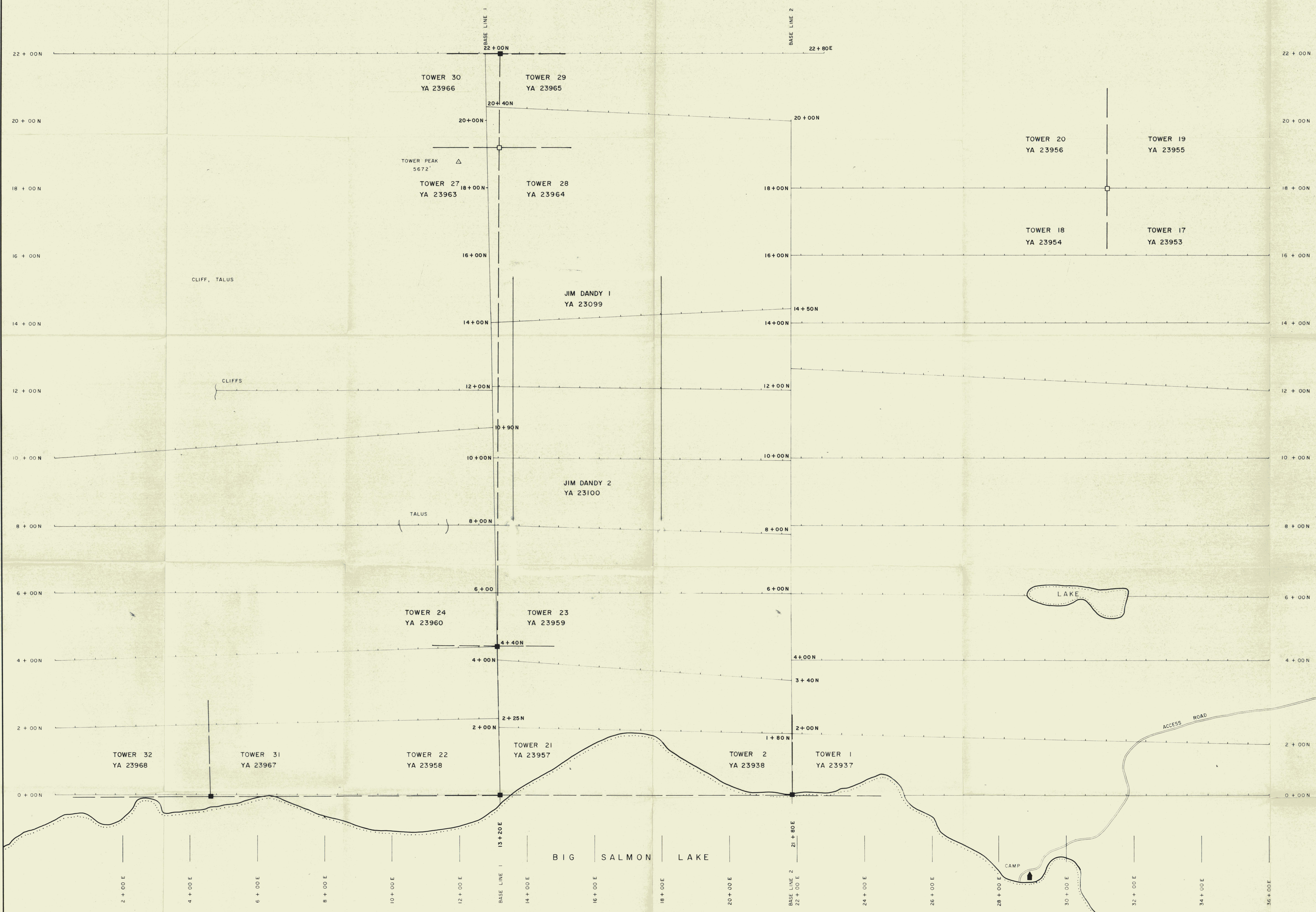
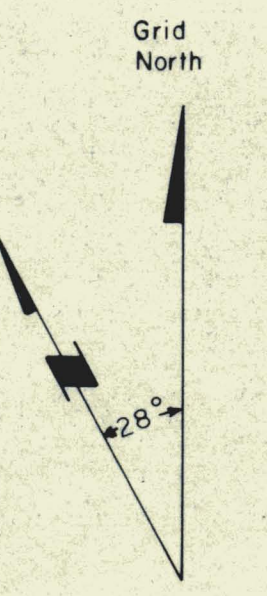
Re: Initial Exploration Program, Tower Claims,
Whitehorse Mining District, Yukon.

Period: August 1st to September 10th, 1981.

J.B.P. Sawyer, P.Eng. 7 days @ \$350.00/day	\$2,450.00
Fayz F. Yacoub, Geologist 2 days @ \$175.00/day	<u>350.00</u>
Sub total	\$2,800.00

Disbursements:

C.L. Cory, drafting	\$245.00
K.D.H. Holdings Ltd., printing	
Invoice 26/8/81	\$102.03
Invoice 28/8/81	18.55
	<u>\$120.58</u>
J. Farquharson, office assistance	369.75
B.C. Telephone Co., long distance tolls	
Aug. 11/81 billing	\$15.95
Aug. 25/81 - 2 calls to Whitehorse	12.95
	<u>\$28.90</u>
Canadian Imperial Bank of Commerce, cheque certifying charges	4.00
Totemcolour, film processing	<u>12.67</u>
	\$780.90
In-office copying	<u>33.24</u>
Total Disbursements	\$814.14
10% on Disbursements (\$780.90)	<u>78.09</u>
	\$892.23
	<u>892.23</u>
<u>TOTAL INVOICE</u>	<u>\$3,692.23</u>



B. A. COPPER MINES LTD.

TOWER CLAIMS
WHITEHORSE MINING DISTRICT, YUKON

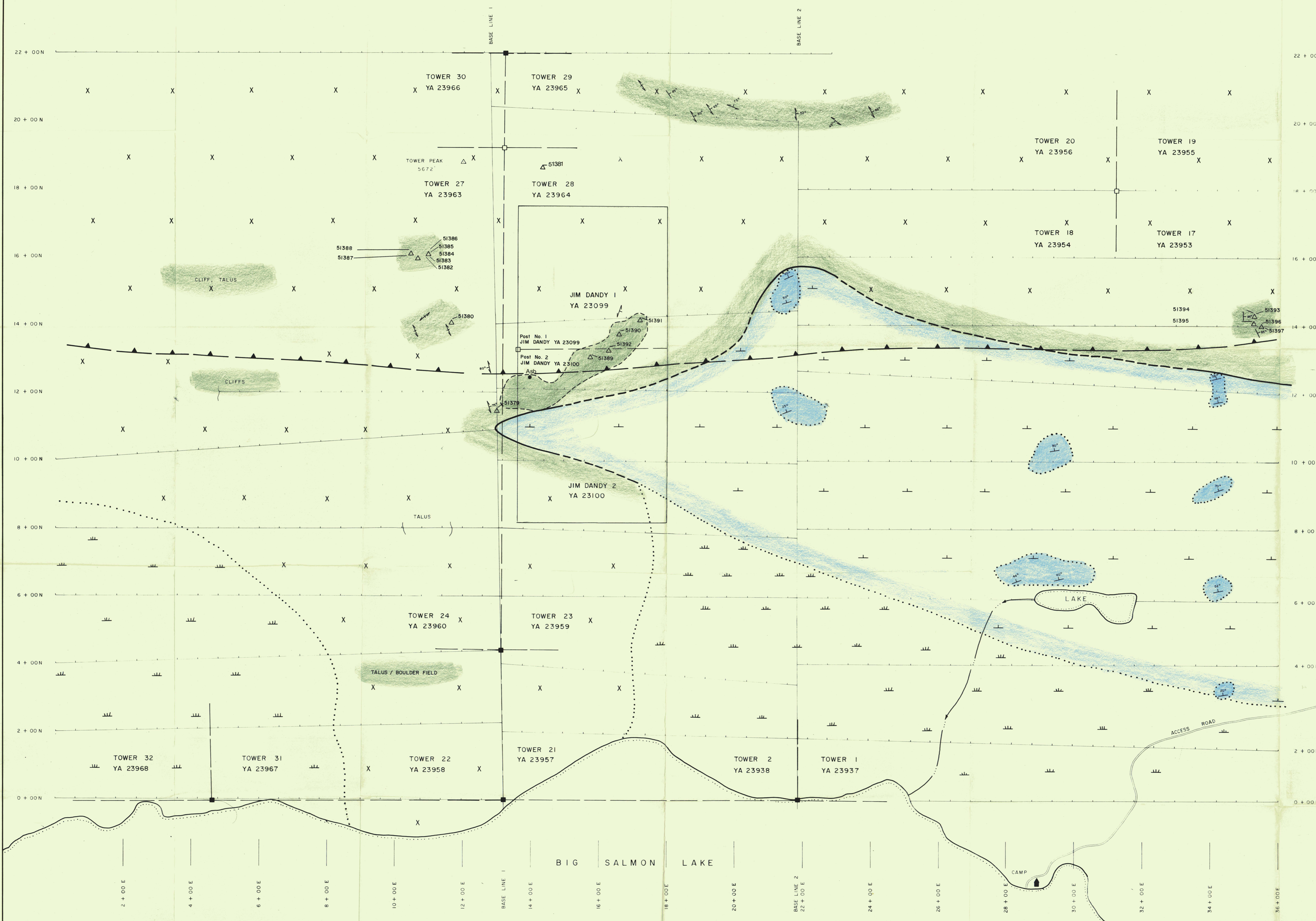
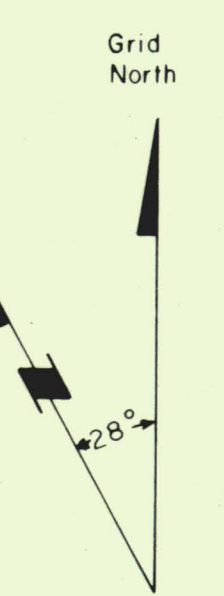
GRID PLAN 091007

Scale: 1:4000 N.T.S. Ref. 105 F/6

SAWYER CONSULTANTS INC Date: July, 1981

Drawn by C. L. Cory Map No 1

TO ACCOMPANY REPORT
BY J.B.P. SAWYER, P. ENG.,
DATED Sept. 3rd, 1981



- LEGEND**
- PARTLY ALTERED BASIC VOLCANIC ROCKS, PYROXENITES, META-DIORITE AND MINOR SERPENTINE.
 - BLACK - WEATHERING SLATE AND SHALE, THIN BEDDED CHERTS.
 - OUTCROP, - AREA OF OUTCROP
 - SWAMP AREA - VEGETATION
 - OUTLINE OF AREA OF ALTERED ROCK / AREA OF MINERALIZATION.
 - GEOLOGICAL CONTACT, DEFINED, APPROXIMATE, LIMIT OF MAPPING
 - BEDDING, STRIKE, DIP.
 - FOLIATION, CLEAVAGE, STRIKE, DIP.
 - MAJOR THRUST FAULT
 - CREEK
 - SAMPLE LOCATION, AND NUMBER

GEOLOGY BY F. YACOUB July 1981

0 50 100 200 300 400 500 Metres

B. A. COPPER MINES LTD.

TOWER CLAIMS
WHITEHORSE MINING DISTRICT, YUKON

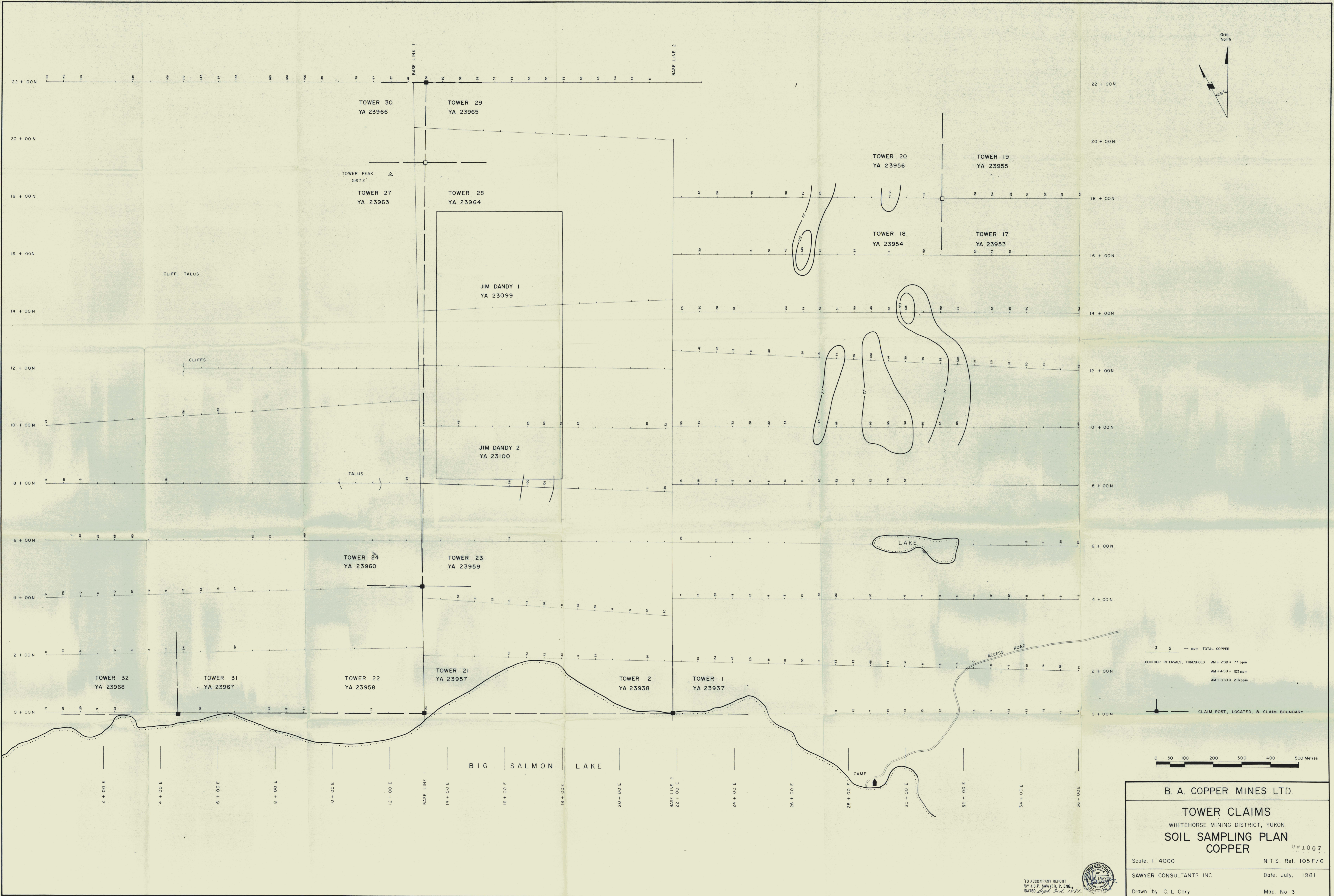
GEOLOGY 091007

Scale: 1:4000 N.T.S. Ref. 105 F/6

SAWYER CONSULTANTS INC Date: July, 1981

Drawn by C. L. Cory Map No 2

TO ACCOMPANY REPORT
BY J.B.P. SAWYER, P. ENG.
DATED *Sept. 3rd, 1981*



TOWER 30
YA 23966

TOWER 29
YA 23965

TOWER 27
YA 23963

TOWER 28
YA 23964

TOWER 20
YA 23956

TOWER 19
YA 23955

TOWER 18
YA 23954

TOWER 17
YA 23953

TOWER 24
YA 23960

TOWER 23
YA 23959

TOWER 21
YA 23957

TOWER 2
YA 23938

TOWER 1
YA 23937

TOWER 32
YA 23968

TOWER 31
YA 23967

TOWER 22
YA 23958

JIM DANDY I
YA 23099

JIM DANDY 2
YA 23100

TOWER PEAK
5672'

CLIFF, TALUS

CLIFFS

TALUS

LAKE

CAMP

ACCESS ROAD

BASE LINE 1

BASE LINE 2

— ppm TOTAL COPPER

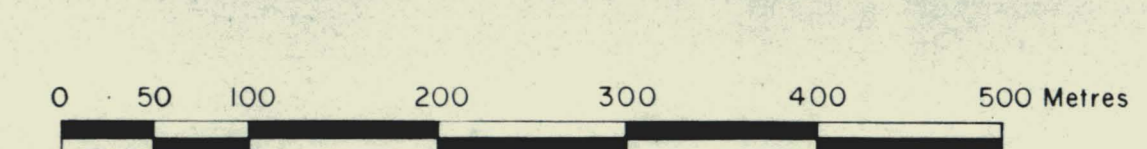
CONTOUR INTERVALS, THRESHOLD

AM + 2SD = 77 ppm

AM + 4SD = 123 ppm

AM + 8SD = 216 ppm

— CLAIM POST, LOCATED, & CLAIM BOUNDARY



B. A. COPPER MINES LTD.

TOWER CLAIMS

WHITEHORSE MINING DISTRICT, YUKON

SOIL SAMPLING PLAN

COPPER

Scale: 1:4000

SAWYER CONSULTANTS INC

Drawn by C. L. Cory

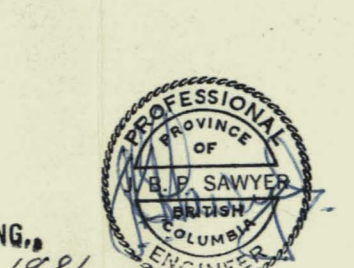
NTS. Ref. 105F/6

Date July, 1981

Map No 3

031007

TO ACCOMPANY REPORT
BY J. B. P. SAWYER, P. ENG.
DATED Sept 3rd, 1981

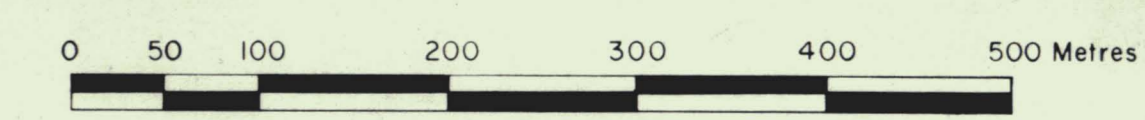


Grid North



ppm TOTAL LEAD
CONTOUR INTERVALS, THRESHOLD AM+250 = 39 ppm
AM+450 = 70 ppm

CLAIM POST, LOCATED, & CLAIM BOUNDARY



B. A. COPPER MINES LTD.

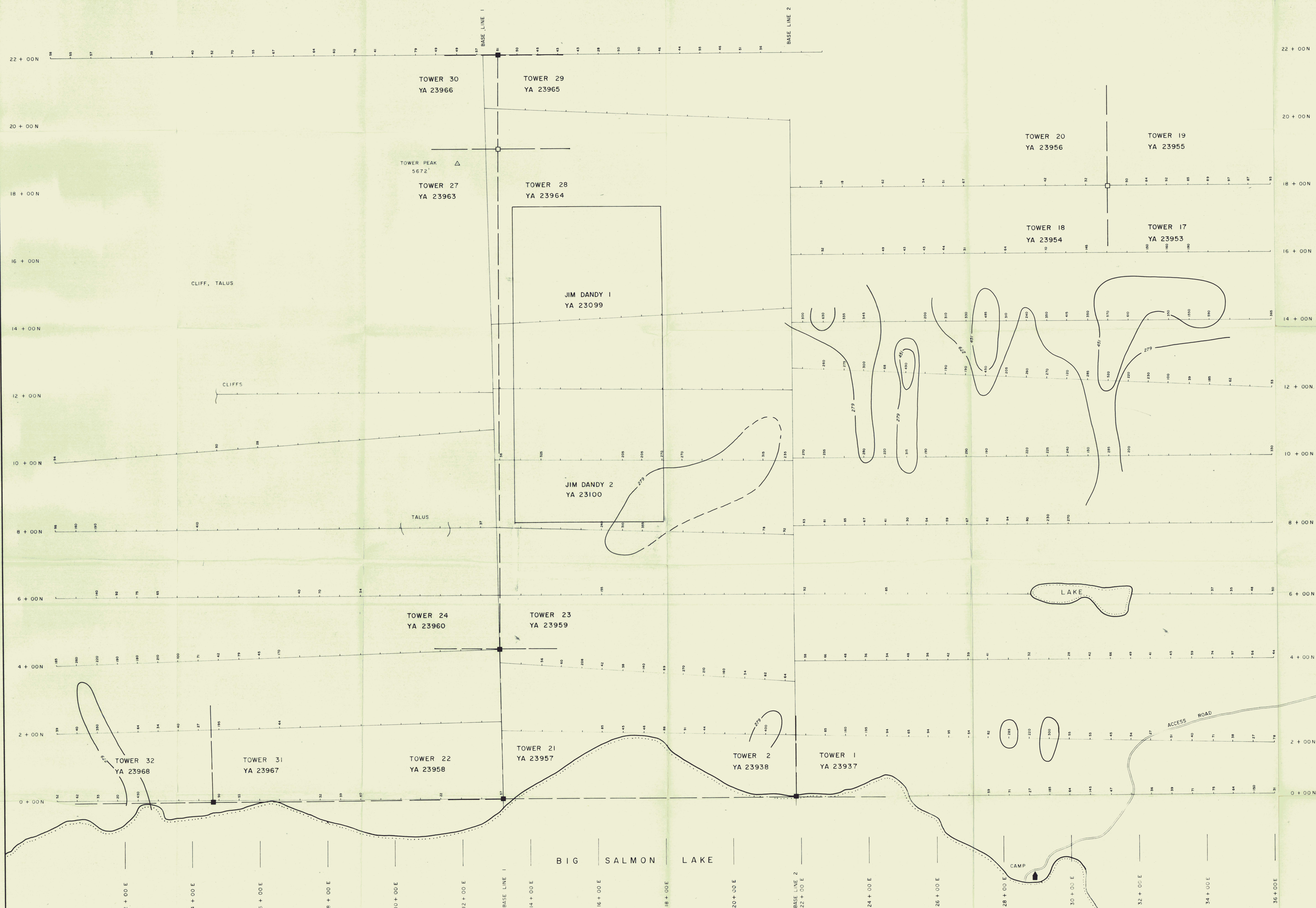
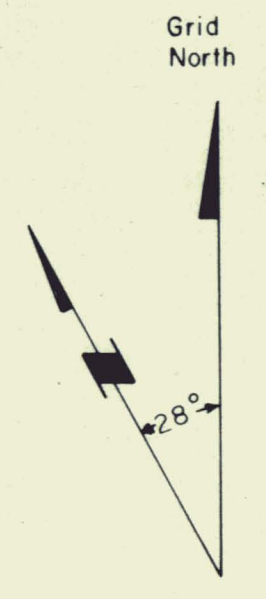
TOWER CLAIMS
WHITEHORSE MINING DISTRICT, YUKON
SOIL SAMPLING PLAN
LEAD 091007

Scale: 1 4000 N.T.S. Ref. 105 F/6

SAWYER CONSULTANTS INC Date: July, 1981
Drawn by C. L. Cary Map No 4

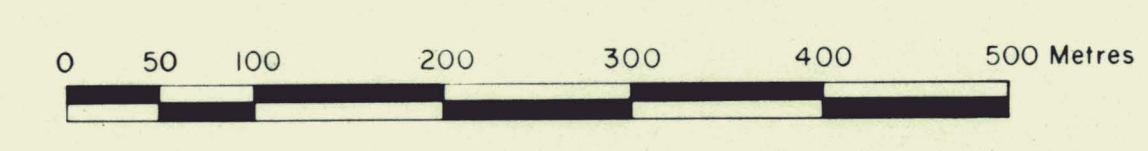
TO ACCOMPANY REPORT
BY J.B.P. SAWYER, P. ENG.,
DATED Sep 2nd, 1981.





— ppm TOTAL ZINC
 CONTOUR INTERVALS, THRESHOLD AM + 250 = 279 ppm
 AM + 450 = 451 ppm

— CLAIM POST, LOCATED, & CLAIM BOUNDARY



B. A. COPPER MINES LTD.

TOWER CLAIMS
 WHITEHORSE MINING DISTRICT, YUKON
SOIL SAMPLING PLAN
ZINC 091007

Scale: 1 4000 N.T.S. Ref. 105 F/6
 SAWYER CONSULTANTS INC Date July, 1981
 Drawn by C. L. Cory Map No 5

TO ACCOMPANY REPORT
 BY J.B.P. SAWYER, P. ENG.
 DATED Sept. 3rd, 1981.