ECSTALL RIVER PROJECT, B.C.
NTS 103H/13E,14W
PROPOSED C.F.C. PARTICIPATION

August 1982 P.W.A. Severin

CORPORATION FALCONBRIDGE COPPER

MEMORANDUM

DATE: August 17, 1982

A
TO: B. D. Simmons

COPIES A
COPIES TO: M. J. Knuckey

DE
FROM: P. W. A. Severin

SUJET
SUBJECT: E & B EXPLORATIONS - ECSTALL RIVER PROJECT, B.C. NTS 103H/13E,14W

SUMMARY

The Ecstall River project (Fig. 1) is worthy of our serious consideration.

INTRODUCTION

Further to my memo of June 24, 1982, a property visit was completed on July 28, 1982 with Chris Graf of Active Mineral Explorations Limited (the property owner) and Pat McAndless of E & B Explorations.

Chris Graf (±30 years old) is a graduate of U.B.C. and operates a one man company. He recognized the potential of the Ecstall area and staked it in late 1980.

E & B Canada Resources Limited, is a private company whose wholly owned subsidiary, E & B Explorations Limited, holds contracts with West German investment groups who provide funds for exploration. E & B entered into an option agreement with Chris Graf and provided the funds (±$200,000) for the 1981 exploration program which was conducted by Chris Graf. Due to a shortage of funds, no exploration was conducted during 1982. The option will terminate on January 30, 1983 unless E & B proposes a program for 1983. E & B are therefore seeking a third party. It is interesting to note that Pat McAndless had not set foot on the property prior to our recent visit!

E & B will "put together an attractive proposal" if we give them a positive reaction based upon what I have seen.

The claims are in good standing until December 1983. Samples of the massive sulphides and host rocks were collected but have not been submitted for analysis due to the recent adjustment to our B.C. budget.

PROPERTY EXAMINATION

1) Ecstall Deposit (Kidd Creek)
   - -located in rugged terrain on a steep slope in a narrow ravine called Red Gulch Creek
   - -a picturesque but difficult walk/climb
   - -spectacular showings (approx. 3 - 6 metres high) of Mg/Cg granular pyrite along the sides of the gulch. Some vague banding was evident.
   - -no obvious sphalerite observed.
   - -contacts between the MS and the meta-tuffs are essentially vertical.
   - -the meta-tuffs appear to consist of interbands of quartz-biotite schists and quartz-sericite schists with some remnant volcaniclastic textures evident in some of the more mafic material.
   - -a zone/band of chlorite-biotite-pyrite schist was observed on the

VIII 131° IX X 130° XI XII 129° XIII XIV 128° XV XVI 127° XVII

56° 55° 54° 53°

a b c d e f

ILLAGIGEDO ISLAND

CASSIAR MOUNTAINS

BOUNDARY RANGES

NASS RANGES

COAST MOUNTAINS

BULKLEY RANGES

COAST DISTRICT RANGE 5

COAST DISTRICT RANGE 4

TWEEDSMUIR

PRINCESS ROYAL ISLAND

BANKS ISLAND

PITT ISLAND

BABINE RANGE

BALT RANGE

Springs
Cabin
Mount Reid
1406
1719
1465
1950
Hyder
Stewart
2202
Lavender Peak
2323
Alice Arm
1679
Anyox
Cabin
Smeaton
Mary I
1095
1065
Pearse Island
Arrandale
Filmore I
C Fox
Wales Island
Somerville Island
Zayas I
Dundas Island
463
Port Simpson
Baron I
Dunira Island
Georgetown Mills
IR 2
TSIMPSEAN PEN
Melville I
Metlakatla
IR 2
PRINCE RUPERT
Port Edward
1082
Haysport
Hooper Pt
Stephens I
Smith Island
Osland
Port Essington
Prescott I
Hunts Inlet
Kennedy I
Porcher Island
Oona River
888
Gurd I
Cape George
Goschen I
Kitkatla
IR 1
McCauley Island
Bonilla I
Anger I
Hartley Bay
Parant I
Fin I
Gil Island
Terror Pt
Estevan
Campania Isl
Dam
Falls
1955
Coste I
Kildala Arm
Majtland I
Hawkesbury Island
Gribbell Island
Butedale
Dam
Kincolith
Mill Bay
Greenville
IR 9
Aiyansh
IR 1
Mount Priestley
2368
Vetter Peak
2100
Oscar Peak
2304
Rosswood
2066
Dorreen
Pacific
2467
Usk
2041
Alice Peak
TERRACE
Kitselas
1906
Amsby
Lakelse Lake
1847
Mount Catt
2209
Mt Valpy
1718
KITIMAT
Smelter
Kitimat Mission
2755
Mount Weber
2007
Cabin
Kuldo
IR
Kisgegas
Mount Thomlinson
2488
2466
2096
Kispiox
IR 1
IR 1
Hazelton
Kitwanga
Skeena Crossing
IR 1
Cedarvale
Seven Sisters Peaks
2755
Moricetown
2499
New Hazelton
Bulkley Canyon
Bulkley House
2272
West Landing
Babine
IR
Natalzul Mtn
2330
IR
1569
IR
Old Fort
IR
IR
Nanka Peak
2006
Mount Cronin
2386
Driftwood Creek
2576
Smithers
Topley Landing
711
Dome Mtn
1753
Telkwa
1755
Quick
Walcott
1619
16
Barrett Lake
Houston
1439
Perow
Topley
North Bulkley
Forestdale
Rose Lake
1822
2124
Colleymount
Notalee
McDonald's Landing
2170
797
2219
Wistaria
853
Streatham
Ootsa Lake
2470
Troitsa Pk
2077
2254
Underground Aqueduct
Kemano
2173
2225
859
Rapids
2280
Cable Mtn
2354
Tsaydaychuz Pk
2769
0 Km 30
CANADIAN NATIONAL 16

inches
0 1
0 1 2
centimetres

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

BRITISH COLUMBIA GEOLOGICAL SURVEY

west side of the massive sulphides. This may represent an alteration zone.

-samples collected:

ET-1 #1 Qtz-biotite schist
Just south of south MS deposit
Possible fw material
5% diss. Py.

ET-2 #2 Qtz-sericite schist
Just south of south MS deposit
5% subhedral/euhedral diss Py

ET-3 #3 Qtz-biotite schist volcaniclastic
Just west of main MS deposit

ET-4 #4 Qtz-sericite schist band
Just west of main MS deposit

#5 Massive pyrite

2) Pond Showing (E & B Joint Venture)

-located in moderate topography, at an elevation of 500 metres above the valley floor, 4km along strike to the south of the Ecstall Deposit.

-quartz-sericite schist similar to that at Ecstall and similar to that observed in other areas such as Twin J and Homestake.

-5% finely disseminated pyrite

-mariposite (chrome mica) evident

-samples collected:

ET-6 #6 Qtz-sericite schist, 5% Py

3) Mass or Packsack Showing (Dimac Resources)

-located in moderate topography, at an elevation of 400 metres above the valley floor, 8km SSE of the Pond showing

-drilled in the 1960's by Texasgulf

-2 to 3 metre wide bands of massive Mg/Cg pyrite within quartz-sericite schist. Similar to Ecstall

-possibly some vague volcaniclastic textures

-somewhat reminiscent of Winston Lake lithologies

-samples collected:

#7 Diamond drill core in sequence

ET-7 -qtz-sericite schist

ET-7a -massive mg granular pyrite (split)

ET-7b -qtz-chlorite-sericite schist

4) Horsefly (E & B Joint Venture)

-located just below the tree line in moderate topography at an elevation of 600 metres above the valley floor.

-a 0.7 metre band of Mg/Cg massive pyrite is hosted by quartz-sericite/ quartz-biotite schist.

-an identical situation to the Mass deposit

-samples collected:

ET-8 #8 Qtz-biot. schist

ET-9 #9 Massive, vaguely banded, Mg granular pyrite with some subtle sphalerite "bands" (?? 5 - 8%?? sphalerite)

ET-10 #10 Qtz-biotite schist located just west of the massive sulphides.

METRICLAB (1980) INC.
CASIER POSTAL 44[illegible]388, CHEMIN OKA
STE-MARTHE-SUR-LE-LAC, QUÉ., J0N 1P0
TÉLEX: 05-835543
TÉL.: (514) 473-0920

CORPORATION FALCONBRIDGE COPPER,
3074 Portage Avenue, Suite 130
WINNIPEG, Manitoba.
R3K 0Y2

RÉSULTATS # 1126680 COMMANDE # PROJET # DATE : 82-11-25

PAGE 1

Att.: Mr. Paul W. A. Severin

RÉSULTATS D'ANALYSES/ASSAY REPORT

ÉCHANTILLONS SAMPLES	SiO_2 %	TiO_2 %	Na_2O %	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Au ppb
ET- 1 Ecstall	55.6	.82	1.37			661				
2	66.0	.85	2.56			4330				
3	57.5	.86	2.79			112				
4	77.2	.56	2.76			90				
6 Pond	74.5	.48	2.14			379				225
"H.W" 7 Mass.	76.2	.34	5.02			42				
MS 7A D.D.				716	423	47700	42	56	22.3	194
F.W" 7B core.	69.1	.38	.37			75				
Qtz-brot. sch. 8 Horneffly	54.1	1.20	2.21			376				
MS 9				947	1690	43450	22	194	40.9	142
Qtz-brot. sch. ET-10 LW of MS	46.5	1.67	.88			586				
~~VI-27~~ Pumice Tuff Ext.	~~60.5~~	~~.83~~	~~1.35~~			~~67~~				
~~28~~	~~54.7~~	~~.76~~	~~4.22~~			~~106~~				
~~29~~	~~51.0~~	~~.72~~	~~2.80~~			~~142~~				
~~30~~	~~53.1~~	~~.74~~	~~3.71~~			~~100~~				
Ser. Sch. ~~31~~	~~73.9~~	~~.50~~	~~4.08~~			~~61~~				
~~33~~	~~54.7~~	~~.86~~	~~3.34~~			~~66~~				
QFP ~~34~~	~~74.3~~	~~.38~~	~~5.07~~			~~62~~				
~~35~~	~~59.0~~	~~.62~~	~~3.43~~			~~63~~				
~~VI-36~~	~~73.4~~	~~.42~~	~~5.65~~			~~27~~				

METRICLAB (1980) INC. N.B.

LOGISTICS (Please refer to appended sketch in pocket)

The Ecstall River drains rugged country where valley floors are ±30metres above sea level and the adjacent summits rise to over 1400 metres. Snow fall varies from 3 to 7 metres per season and could make winter operations rather expensive and perhaps treacherous due to potential avalanches.

The effective exploration field season is from July 1 to October 15 and requires helicopter support.

There is a dam and a hydro generating plant at Big Falls Lake, adjacent to the Ecstall River, approximately 30Km NW of the potential mine area. Our helicopter pilot indicated that logging operations were scheduled to begin, in the not too distant future, just to the north of the dam site. This would help to partially open up the area between the dam and the Skeena River.

If an exploration program was successful in discovering an economic deposit, there are at least two possibilities regarding accessibility:

a) build a road to the NW along the Ecstall River from the potential mine site to the Skeena River, a distance of 58km. A 2km barge/ ferry service would be required across the Skeena River to connect with the Yellowhead highway and the CNR line. The work force could live in Prince Rupert which is located 36km to the west at the terminus of the Yellowhead highway. Perhaps concentrate could be loaded onto an ocean-going vessel at the junction of the Ecstall and Skeena Rivers at high tide??

b) build a road to the SE along the Ecstall River and the Quaal River from the potential mine site to Kitkiata Inlet a distance of 30km. A barge/ferry service would be required up Douglas Channel to Kitimat a distance of approximately 60km.

The Ecstall River appeared to be rather shallow and I do not know how far a barge could be routinely pulled up the river. We did not fly over Douglas Channel.

In any event ocean ports would not be too far away and would provide ready access to potential Japanese markets.

In summary, the accessibility is fair/poor but not prohibitive.

EXPLORATION CONSIDERATIONS

The topography, weather and relatively short field season (3 1/2 months) indicates that a detailed C.F.C. style exploration approach would be rather slow going. Exploration costs would be relatively high due to the necessary helicopter support.

The stratigraphy is near vertical which would provide an excellent cross section for lithogeochemical surveys but not the best situation for a diamond drill program ($40-50/ft). The topography, however, would be helpful in this regard. The topography would also lend itself quite well to the development of a potential deposit by adits and declines as opposed to shaft sinking.

This area requires a long term (say 5 years) integrated detailed program of geology, lithogeochemistry, geophysics and diamond drilling supplemented by a regional program

of AEM Input, soil and/or lithogeochemistry and geology surveys.

Since the Mass and Ecstall properties are likely available for option (pers. comm. with C. Graf) the whole area could be acquired. Thus a major B.C. massive sulphide belt, possibly elephant country, could be "tied-up" thereby providing an excellent opportunity for a significant discovery.

Massive sulphides are known to exist at the following showings:

SHOWING	%Cu	%Zn	oz/T Ag	
Ecstall	0.90	3.10	0.80	extensively drilled?
Mass	0.50	0.20	1.00	limited drilling
Horsefly	0.31	4.55	1.50	not drilled
Strike	0.17	2.83	1.13	(boulders)

- assays that were reported by Chris Graf

All of the assays suggest that these may be fringe or distal type deposits. Does the main vent and a proximal economic massive sulphide deposit remain to be discovered??

RELATIVE MERITS

Pro	Con
-known volcanogenic MS occurrences	-stratigraphy is near vertical
-favourable geology	-moderately/strongly metamorphosed
-reasonably suited to lithogeochemistry	-helicopter supported exploration is expensive
-excellent ground position	-rugged terrain
-close proximity to ocean port	-fair accessibility
-hydro source 30km away	-winter conditions could be difficult
-rail line and highway 60km away	-development relatively expensive
-community of Prince Rupert 96Km away	

CONCLUSIONS

If C.F.C. is considering becoming involved in exploration in B.C. we must recognize that it will be more expensive and somewhat slower (due to topography and weather) than working in the shield. We must be prepared to work in rugged terrain such as on Vancouver Island, the Coast Range Mountains and the Adams-Barriere area where accessibility varies considerably from very poor to good.

The Ecstall area occurs in the rugged Coast Range Mountains but access to the area of interest may be relatively easy (at a price) via the Ecstall River valley. This meta-volcanic/meta-sedimentary belt appears to be one relatively unexplored major massive sulphide district in B.C. The property situation is excellent and presents the opportunity to virtually "tie-up" the whole belt including a number of known massive sulphide deposits. The fact that the deposits discovered to-date are massive pyrite containing sub-economic Cu-Zn-Ag values has likely frightened people away in the past. If one considers that the Linda deposit is within shooting distance of Stall Lake Mine and a pyrite (zinc) deposit is located between the Millenbach and Amulet deposits - I do not think we should be discouraged at all by what has been discovered to-date.

It is recognized that whether or not a discovery would support the required development program, would depend upon the size and metal content of the deposit. The Ecstall area would provide an excellent opportunity for the discovery of

a significant deposit.

RECOMMENDATIONS

The following recommendations are proposed with the assumption that C.F.C. is prepared to open a B.C. regional office during 1983 with a minimum 1983 budget in the order of:

Regional Office (including re-location)	$ 80,000
Ecstall Project	350,000
Helicopter Input (800Km) $100,000	
Begin detailed ground work $250,000	
Investigation of Adams-Barriere Lake area	70,000
Investigation of other areas (eg. Vancouver Island)	70,000
Contingency for follow-up/property acquistion	130,000
TOTAL BUDGET	$700,000

Total staff: one senior geologist, one project geologist, one secretary/bookkeeper
: an additional project geologist would be required in 1984

Recommendations

1) Indicate our interest to E & B who will put forward a specific proposal.

2) If the proposed deal is acceptable to C.F.C.
   a) research all assessment reports prior to signing (apparently not much available)
   b) Chris Graf may have access to additional data pertaining to previous work. This must be reviewed prior to signing.
   c) stake the entire belt.
   d) pursue option agreements on Mass and Ecstall

3) C.F.C. should be committed to a 5 year integrated detailed program supplemented by regional work.

4) To pursue this further, a supplement to our 1982 budget (±$4,000) would be required. This would cover the cost of another trip to Vancouver and some analyses of samples.

5) I would be interested to know what data F.L./SUPCO have in their files pertaining to the Ecstall area.

Respectfully submitted,

P.W.A. Severin

js

CORPORATION FALCONBRIDGE COPPER

MEMORANDUM

DATE: June 24, 1982

A
TO: B. D. Simmons

COPIES A
COPIES TO: M. J. Knuckey

DE
FROM: P. W. A. Severin ✓

SUJET
SUBJECT: E & B EXPLORATIONS - ECSTALL RIVER PROJECT, B.C. NTS 103H/13E,14W

SUMMARY

The following is a preliminary brief summary of the E & B Explorations Ecstall situation. A field trip has been arranged for July 28, 1982.

The Ecstall Joint Venture involves four companies who have acquired a substantial ground (18,350 acres) position in the Ecstall River meta-volcanic/sedimentary "belt" in west central British Columbia approximately 80Km south of Prince Rupert.

At least three reasonably sized (each + 3 MT) massive sulphide (py) deposits occur in the area and are supplemented by numerous sulphide (Py- Cp-Sph) showings. These include the two massive sulphide deposits collectively referred to as the Ecstall deposit (owned by Kidd Creek) containing 8 MT of ~0.5% Cu, 3% Zn, 0.1% Pb, 0.8oz/T Ag and 0.01 oz/T Au., with local areas within the MS reported to grade up to 5% Cu and 15% Zn.

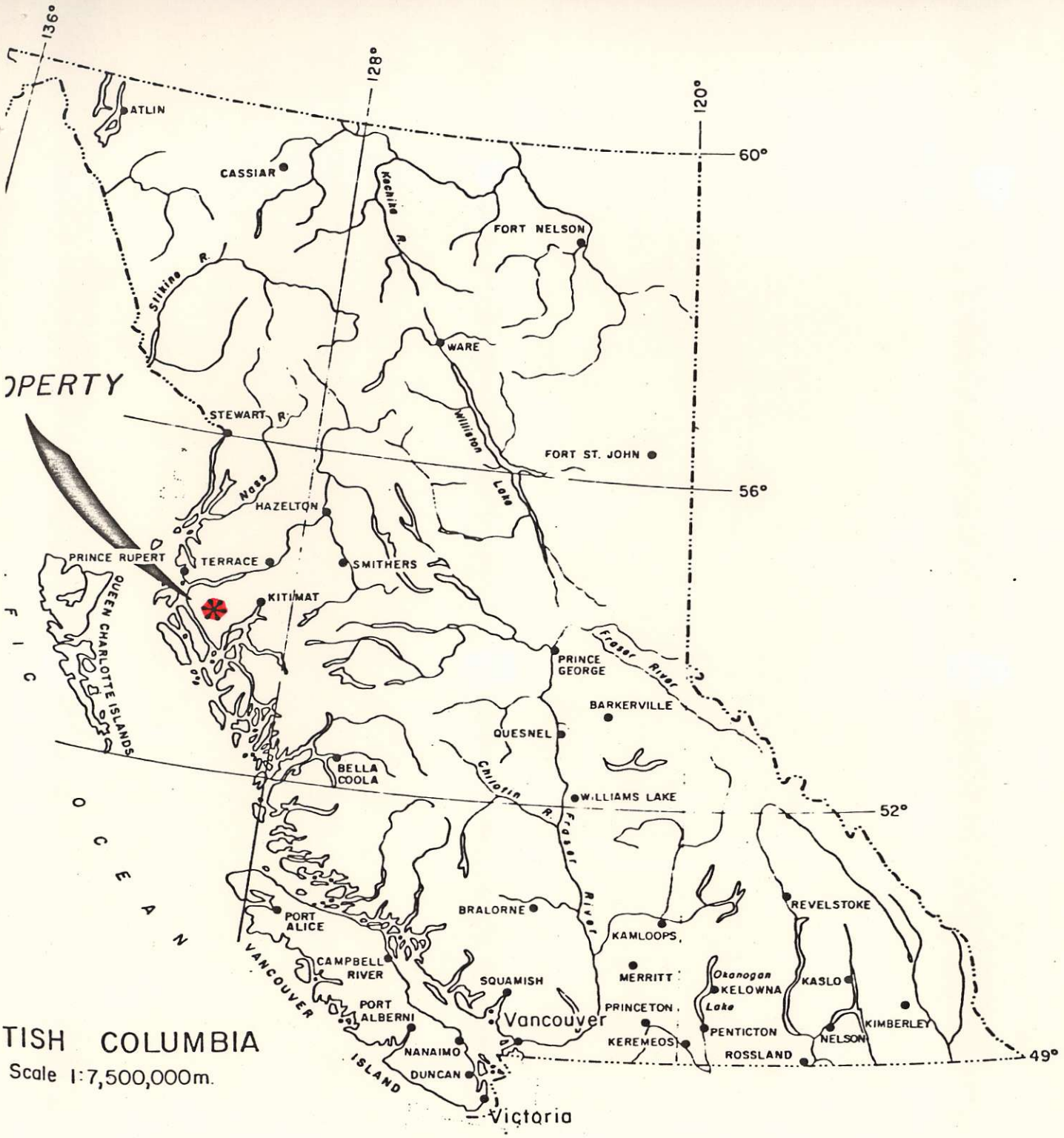
Airborne EM and magnetometer surveys and limited ground silt and soil geochemistry emphasize the fact that the areas in the vicinity of 4 known showings/deposits that the Joint Venture holds warrant detailed follow-up. The prime example is a +150 mho AEM conductor located in the vicinity of the Horsefly massive pyrite showing which assays up to 0.31% Cu, 4.55% Zn, 0.08% Pb, 1.5 oz/T Ag and 0.01 oz/T Au from grab samples (apparently not much exploration done to date).

This is definitely an interesting situation located in a significant, albeit subeconomic to date, massive sulphide district. The accessibility of this area, compared to others, is not as attractive, however this is somewhat compensated by the amount of favourable ground held by the existing joint venture group, and by favourable ground apparently still open for staking.

The situation will be investigated further by means of a property visit and a preliminary discussion regarding possible terms of agreement. It is recommended that C.F.C. not consider commiting themselves to any programs in B.C. prior to say October 31, 1982 in order that our on-going study may be far enough advanced to allow us to put the various opportunities in proper perspective (unless of course we have adequate funds and acquire personnel to commit ourselves to more than one major project initially - i.e. annual budget +$1,500,000).

INTRODUCTION

C.F.C was offered participation in the Ecstall River Joint Venture Project as a result of a conversation that Dave Watkins had with Pat McAndloss of E & B Exploration Inc., on May 13, 1982.



E&B EXPLORATION INC. AND
WELCOME NORTH MINES LTD.

ECSTALL JOINT VENTURE

LOCATION MAP

PLAN No.	DRAWN	DATE	FIGURE
	C.G. / E.D.S.	SEPT. 1981	1
Revised		N.T.S. 103 / H,I	

ACTIVE MINERAL EXPLORATIONS LTD.

EXCLUSIVE DRAFTING SERVICES LT.

The Ecstall Joint Venture was organized in 1981 to explore for massive sulphide deposits in the vicinity of Kidd Creek's (Texasgulf) Ecstall deposits (8 MT - .5% Cu, 3% Zn, 0.1% Pb, 0.8oz/T Ag, 0.01oz/T Au) located within meta-volcanic (meta-sedimentary) rocks of the Ecstall-Quaal Rivers area in West Central British Columbia. The Joint Venture currently involves: Welcome North Mines Ltd., Esperanza Explorations Ltd., Active Mineral Explorations Ltd., and E&B Explorations Incorporated.

A report on the Joint Venture's 1981 exploration program by Chris W. Graf of Active Mineral Explorations Limited has been reviewed and is the subject of this brief summary.

LOCATION AND ACCESS

The Ecstall area of interest is located in the Coast Range Mountains, approximately 80Km south of the town of Prince Rupert (Fig. 1). The property is accessible by float plane and/or helicopter which are available in both Prince Rupert and Terrace.

There are not roads into the area; however, the broad, low elevation, Ecstall-Quaal River Valley would provide relatively easy access to tidewater at Douglas Channel (40 Km south) or the Skeena River (50 Km north).

The area is mountainous with elevations ranging between sea-level and 6000 feet. Generally, the slopes are steep with numerous cliffs. The larger valley bottoms are difficult to walk through because they are commonly beaver-dammed and swamp-covered.

HISTORY

The Ecstall massive pyrite deposits were discovered near Red Gulch Creek during the late 1890's. Four Crown-Granted claims covering the deposits were recorded in 1900, and still comprise the core of the main Ecstall property. At that time the deposits were investigated by adits and some drilling.

The two massive lenses (300 X 40m; 400 X 5m) occur within a northerly trending remnant (5 X 10Km) of meta-sedimentary and meta-volcanic rocks of Late Paleozoic (Permian?) age that are surrounded by the Coast Range batholith. Mineralization consists of a friable intergrowth of mg to cg, euhedral pyrite with minor sphalerite, chalcopyrite, and minute amounts of galena, pyrrhotite, and marcasite. The deposits are associated with sericite schist, quartz-biotite-chlorite schist, quartz-mica schist and minor black argillite.

The property remained idle from 1903 to 1917, when Granby Mining Company took an option on the claim group. They subsequently drilled the deposits in 1918, 1919 and dropped the option. A second option was obtained by Granby in 1923, but after additional drilling it was dropped once again.

In 1937 the property was acquired by Northern Pyrites Limited who completed some diamond drilling to check previous work. By 1940 an 8' X 9' adit (2,700 feet long), seven crosscuts totalling 725 feet and a 600 foot raise to surface had been completed. In 1952 the company completed 1378 feet of surface drilling, 8880 feet of underground drilling and geological reconnaissance of the area. Some low frequency EM was also completed.

Texasgulf Inc., was subsequently formed to further develop the property, and in 1958 carried out a regional exploration project to search for other deposits in the district. This led to the discovery of the MASS or PACKSACK massive pyrite deposit in 1958 and the HORSEFLY massive pyrite showing in 1960. The MASS (Packsack) deposit was extensively drilled in 1959 and 1960 and is reported to be in excess of 3 MT. The HORSEFLY deposit was explored in 1960 by geological mapping, prospecting and a ground EM survey. This survey apparently outlined a conductor roughly 400 metres long.

According to C. Graf no further exploration is known to have been carried out in the district prior to the field work performed by Active Mineral Exploration Limited on behalf of the Ecstall Joint-Venture in 1981. The 1981 exploration program consisted of reconnaissance geology, stream silt and soil geochemistry (Cu, Pb, Zn, (Ag, Au)), local detailed soil geochem and helicopter EM (Geonics 33-1) and magnetometer (Geometrics 803) survey.

CLAIM STATUS

A claim block of 257 units (Fig. 2) was staked late in 1980 to cover the favourable ground on strike from the known deposits.

B.C. Mineral Claim:

This is a variable size claim consisting of 1 to 20 units, a unit being a 500 metre (1640 foot) by 500 metre square containing 25 hectares (61.78 acres).

The Ecstall Joint Venture 14 claim block consists of 6425 hectares or 15877.5 acres which is equivalent to the size of 397 (40 acre) claims in Ontario.

The block of 14 claims (Ecstall 1-14) was staked by Chris Graf and recorded on December 17, 1980. Two addition claims (40 units) Ecstall 15 and 16 were staked on August 5, 1981 to bring the total ground held to 7425 hectares or 18,348.7 acres (459 Ontario claims) in 297 units.

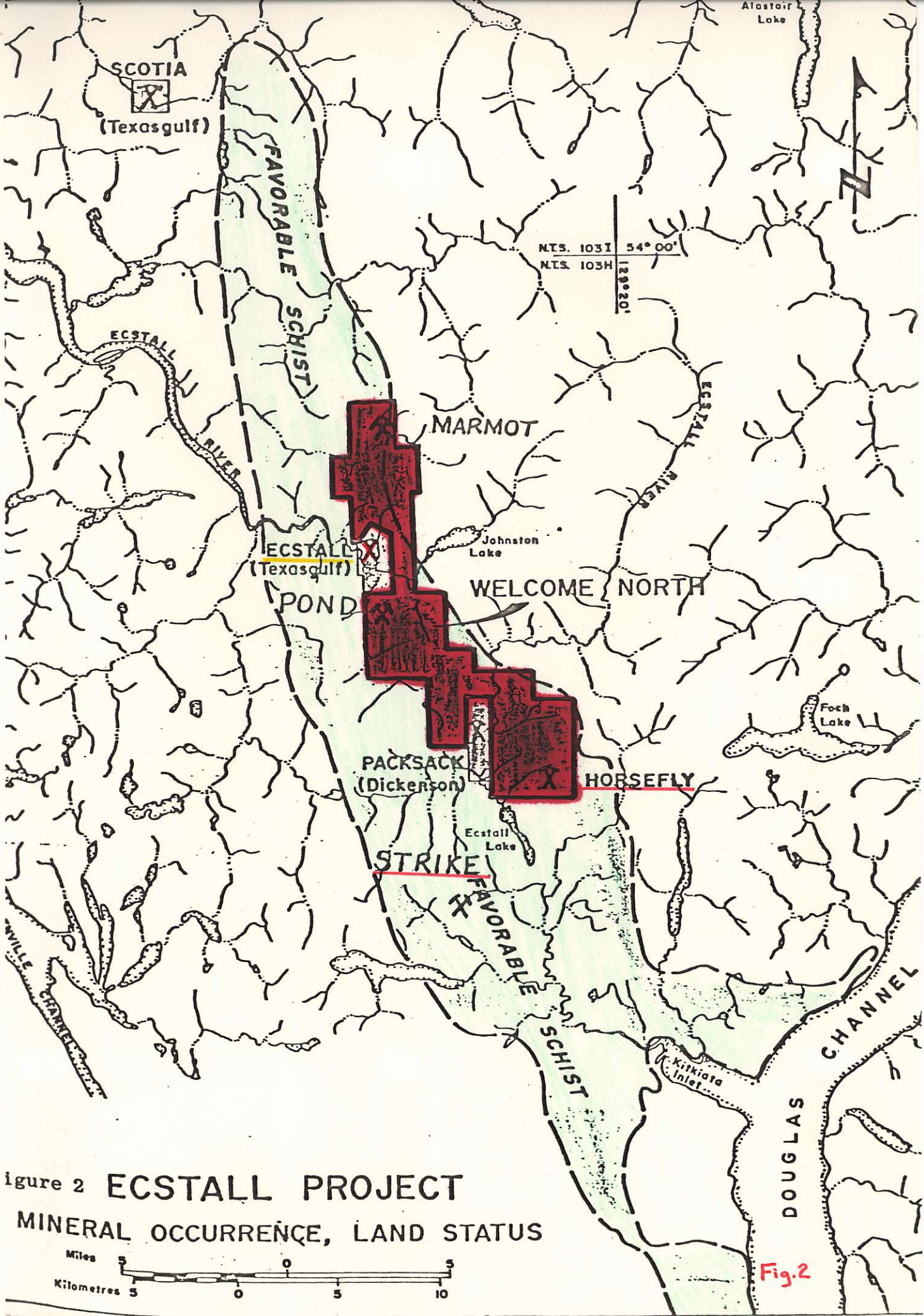
Presumably the 1981 exploration program by Active Mineral Explorations Limited has been submitted as assessment work and the claims are in good standing (this has to be verified).

Twenty-six Crown-Granted claims, and a "contiguous 9 unit modified grid claim" cover the original Ecstall deposit area and are owned by Kidd Creek (Texasgulf).

Twelve Km south of the Ecstall deposit, the Mass claim (16 units) covers another significant (+ 3MT), potentially economic massive pyrite body, which is owned by Dimac Resources.

GENERAL GEOLOGY

The Ecstall area is underlain by a zone of Mid-Paleozoic? meta-volcanic/sedimentary rocks over 120 Km in length and 11 to 25 Km in width. It is bounded on the west by a complex amphibolite facies metamorphic belt which borders the Coast Granodiorite of Mesozoic age.



igure 2 ECSTALL PROJECT

MINERAL OCCURRENCE, LAND STATUS

Fig.2

The 1981 work by Active Expl. Ltd., suggests that this belt may be divided into at least three major mappable units:

- a "basal group of high grade metamorphic schists and gneisses"
- a "middle schistose, grey, streaky laminated gneiss unit"
- an "overlying volcanic-sedimentary group"

"The overlying volcanic-sedimentary group is an average of 2500 metres thick and is comprised of a lower sequences of thin to medium-bedded turbidites and quartzites which grade upwards into black argillites, siltstones, greenstones, greenschists and pyrite-quartz-sericite schist." The pyritic-quartz-sericite schist "hosts exclusively all the known stratabound volcanogenic massive sulphide deposits." (see fig. 3)
A list of the showings/deposits is given at the top left of fig. 3.

1981 EXPLORATION PROGRAM

ACTIVE was the operating partner during 1981 and was responsible for completing a first stage airborne EM and magnetometer survey (flown by Apex Airborne Surveys Ltd.) and a second stage ground follow-up in terms of reconn. geology, drainage silt geochem., local detailed soil geochem., and some reconn. soil geochem.

Geophysics

- Geonics 33-1 EM, 2 coaxial coils, 918 Hz, flight lines 250 metres
- Geometrics 803 Mag., total field precession, 1γ sensitivity.
- Data presentation - profile map shows in-phase and quadrature response
  - total mag. field contour map (20γ intervals)
- General comment - the 8 million ton Ecstall pyrite deposit gave no response! The reason given was that the deposit is located in a ravine and the EM sensor was probably too distant from it to sense it.
  - not much response over the Pond Showing
  - a weak response over the 3 million ton Mass or Packsack pyrite deposit
- Five geophysical responses are shown in green on fig. 3:
  - a) T-1 - located in qtz-ser schist
    - no known mineralization
    - very subtle, broad, 60γ mag. "high" over T1 & 2
    - σt = 30 - 50mhos, depth 0 - 5 metres
  - b) T-2 - associated with T-1
    - σt = 6 - 10mhos, 0 - 5 metres.
  - c) T-3 - in qtz-ser-schist/siltstones, cherty black argillite
    - narrow response
    - no mag. variation
    - σt = 15 - 20mhos, 0 - 3 metres.
  - d) T-4 - local distortion in mag.
    - σt = 20-30 mhos.
    - in qtz-ser. schists
  - d) T-5 - in qtz-ser. schists
    - likely corresponds to the HORSEFLY deposit
    - corresponds to 150 mag. high.
    - high σt = + 150mhos.
    - looks like it could be deep, +5 - 20 metres
- Conclusions - five AEM anomalies require ground follow-up
  - should question this survey for missing known significant occurrence

Geochemistry

Reconn. stream silt-sampling - drainage within and outside claim block sampled
- one sample per 500 metres
- total 600 samples collected
- analysed for Cu, Zn, Pb, (Ag, Au)

Horsefly soil sampling - soil grid sampling over Horsefly deposit area
- grid 2 Km long, lines at 200 m intervals
- samples at 100 m intervals, 440 samples
- "B" horizon sampled
- anomalous threshold: Cu 80PPM
Pb 50PPM
Zn 100PPM

Reconn. soil sampling - some reconn. style soil geochem. was also done over the Pond showing and the Red Gulch area just east of the Ecstall deposit.

Conclusions - the geochem. (silt/soil) indicated four known showings as being moderately anomalous/locally moderately anomalous in Cu, Zn: Horsefly deposit
: Strike showing
: Pond showing
: Marmot showing

EXISTING JOINT VENTURE TERMS

Agreement: E & B Explorations Ltd. vs Active Min. Expl. Ltd., Welcome North/Esperanza.
: Date April 9, 1981

- Active Minerals Expl. - retains 10% Net Proceeds of Production
- Welcome/Esperanza has 50% carried interest to Dec. 31, 1981 afterwhich it must provide 50% of the total exploration costs or be diluted as per the factor:

$$\frac{\text{Party's deemed and actual expenditure \& payments}}{\text{Total deemed and actual expenditures plus 300\% of option payment}}$$

- E & B may earn 50% interest by expending $200,000 during 1981. Thereafter, it must provide 50% of the money.

- in the event that a non-contributing party has it's interest diluted to less that 10% working interest - it will be converted to 10% net proceeds of production royalty.

- option payments:
E & B and Welcome/Esperanza to pay Active Expl. their respective proportions of the following payments:
$20,000 Dec. 31, 1981
$20,000 Dec. 31, 1982
$40,000 Dec. 31, 1983

- operator committed to propose a minimum $100,000 exploration program per year

- the proposed exploration budget that was to be spent by E & B during 1981 is shown as schedule A

ECSTALL PROJECT

EXPLORATION BUDGET 1981

1.	Reimbursement, prior expenditures		$20,000.00
2.	Assays, Geochemical 1000 x 5.00 ea		5,000.00
3.	Camp Costs 225 man days x $25/man/day	5,600	
	Camp Rental	3,000	8,600.00
4.	Consulting Senior Field Geologist 80 days @ $250/day	20,000	
	Consultant 5 days @ $300/day	1,500	21,500.00
5.	District Costs Expediting, Radio Rental		1,500.00
6.	Field Equipment Maps, supplies		3,000.00
7.	Fuel - included in helicopter charges.		
8.	Aircraft - Fixed wing support	10,000	
	Helicopter 150 hours @ $250/hour	37,500	47,500.00
9.	Salaries - 2 Assistants 2 months x $1200/month	4,800	
	Drafting	2,100	6,900.00
10.	Transportation - Airlines	1,500	
	Travel	1,500	3,000.00
11.	Geophysical Surveys A.E.M. (Apex)		68,000.00
12.	Administration and Overhead	15,000	15,000.00
			$200,000.00

CONCLUSIONS

Chris Graf of Active Minerals Exploration Ltd., and the Ecstall Joint Venture have acquired an impressive "chunk" of ground (18,350 acres) in the Ecstall River meta-volcano-sedimentary belt in west central British Columbia. At least 3 reasonably sized massive sulphide deposits (pyrite) occur in the area in addition to numerous showings. Grades of up to 0.17→0.90% Cu and 2.83→4.55% Zn are not uncommon.

Airborne geophysics and ground geochem surveys have located at least five specific targets worthy of detailed follow-up in search of an economic Cu-Zn-Ag-Au-(Pb) deposit.

RECOMMENDATIONS

This is one of possibly several projects that C.F.C. may be in a position to consider towards the end of 1982. The accessibility of this area compared to other areas is not as attractive but this is somewhat compensated by the amount of favourable ground held by the existing joint venture group and by favourable ground apparently still open for staking.

This is definitely an interesting situation located in a significant, albeit subeconomic to date, massive sulphide district in B.C. If C.F.C. became involved, it would have to be a long term commitment and they would have to be prepared to spend significant amounts ± $300,000/yr on detailed geology, geophysics and geochemistry culminating in a major drilling program at an elovated cost, perhaps a total in the order of $2 million over five years.

It is recommended that a property visit be completed and details of a potential deal be investigated before further consideration is given. (this will be done on July 27 and 28 in Prince Rupert) In any event, it is recommended that C.F.C. not commit themselves before October 31, 1982 in order that our on-going study may be far enough advanced to allow us to put this opportunity into proper perspective.

Respectfully submitted,

P. W. A. Severin

js

SHOWING		% Cu	% Pb	% Zn	oz/t Ag	oz/t Au	
Mark	- pyritic, qtz-seric-cht. schist	0.14	0.01	0.02	0.06	0.002	Beyond AEM coverage
Marmot	- qtz-sericite-schist - soil/silt geochem moderately anomal	0.006	0.01	0.02	0.01	0.002	" "
Ecstall	- pyritic qtz-sericite schist - hosts 3 separate MS deposits(PY) - local areas with MS - the 2 main deposits total 8MT.	0.90 5.00%	0.01 ?	3.10 15.0%	0.80 ?	0.013 ?	No AEM response - located in a deep ravine and the EM sensor was probably too distant from the deposit to detect it
Pond	- pyritic qtz-ser-schist - soil geochem locally anomal Cu, Pb, Zn	0.013	0.01	0.13	0.12	0.001	Not much of a response with AEM
Mass	- pyritic qtz-ser-schist 3MT MS - this is open at depth and likely to the north as well	0.50	0.01	0.20	1.00	0.01	Not much of a response - AEM
* Horsefly	- pyritic qtz-ser-schist + MS - soil/silt geochem moderately to highly anomalous	0.31	0.08	4.55	1.5	0.01	Likely represented by T-5 response
* Strike	- pyritic qtz-ser-schist +MS - silt moderately anom. Cu, Zn	0.17	0.27	2.83	1.13	0.01	Outside AEM coverage
Marlyn	- pyritic qtz-ser-schist - not anomalous (silt) in Cu, Zn	0.005	0.01	0.05	0.05	0.002	Outside AEM coverage

inches
0 1 2
0 1 2 3 4 5
centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

LEGEND

- 7 — Coast Intrusions – granodiorite, granite
- Active Horizon – pyritic, quartz-sericite and chloritic schist, massive sulphide
- 6 — Volcanic Formation – green schist, greenstone
- 5 — Sedimentary Formation – turbidites, orthoquartzite cherty black argillite, siltstones, minor marble
- 4 — Streaky Gneiss – metamorphosed sediments
- 3 — Metamorphics – amphibolite, garnet-muscovite schist, banded biotite-hornblende gneiss, pyritic quartz-sericite schist
- 2 — Quaal River Gneiss
- 1 — Prospect Hill Intrusions – metadiorite

SHOWINGS

- I — Mark Showing
- II — Marmot Showing
- III — Pond Showing
- IV — Horsefly Showing
- V — Marlyn Showing
- VI — Strike Showing

AIRBORNE EM ANOMALIES

- T-1
- T-2
- T-3
- T-4
- T-5

90° — Strike and Dip

MARK
MARMOT
POND
ECSTALL
HORSEFLY
V. MARLYN
STRIKE
STOP 1
STOP 2
STOP #3
MASS - Packsack
T-1
T-2
T-3
T-4
T-5
65-80°
80°
Py, Cu
Massive Pyrite
Moderate Topo
Mod Topo
Rough Topo
Mod Rolling Topo
House size boulders of argillite/Massive with specks of Cpy
Boulders of argillite, qtz-ser-schist with argillite
SCALE
0 1000 2000 Metres

① - Sample No.

Mafic Schist — Mafic schist

Narrow ≤100M felsic band
Trace this along strike gradually becomes more pyritic until the felsic grades into massive Py

Contract Costs of Helicopter AEM approx. $150/Line Mile.

CORPORATION FALCONBRIDGE COPPER

MEMORANDUM

DATE: November 25, 1982
A
TO: B. D. Simmons
COPIES A
COPIES TO: M. J. Knuckey
DE
FROM: P. W. A. Severin
SUJET
SUBJECT: ECSTALL AREA - MASS/PACKSACK MS DEPOSIT NTS103H/14W

Further to my memos of June 24 and August 17 pertaining to the Ecstall River Project, additional ground acquisition is hereby recommended pending a satisfactory agreement with E & B.

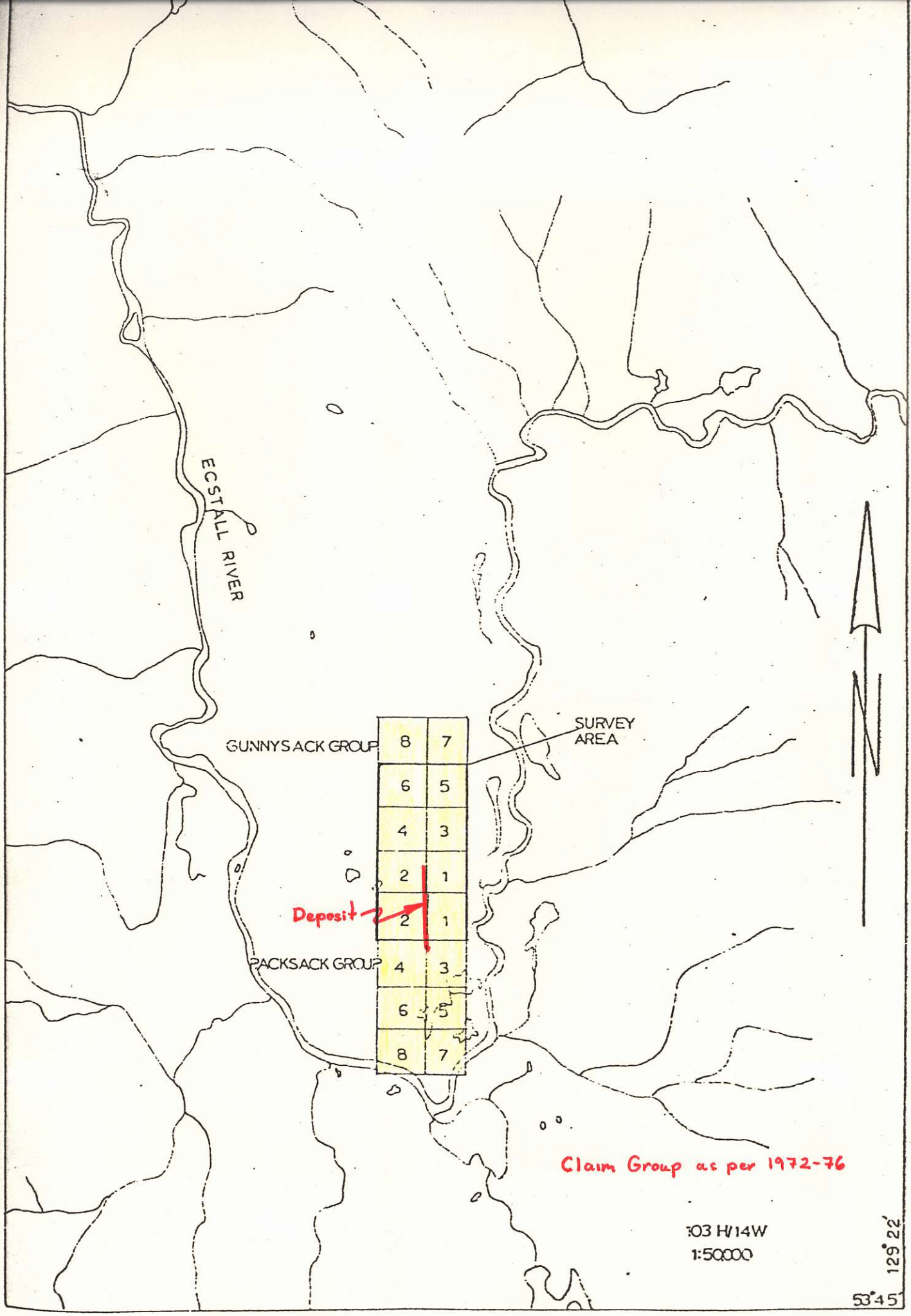
INTRODUCTION

The Mass or Packsack deposit which was briefly described in my previous memos (to which the reader is referred for location etc) is held by Dimac Resource Corporation of Vancouver as claim block "The Mass 2620 (10)" which consists of 16 units. This significant, grossly unexplored, Py-(Sph-Ag-Cp-Au) massive sulphide deposit should be acquired by C.F.C. as part of our proposed regional program. Additional data pertaining to this deposit was recently received from C. Graf and will briefly be summarized below.

PREVIOUS WORK

1958 - ground held by Texasgulf
- McPhar dual frequency Vertical Loop EM survey (1000 and 5000 Hz) was completed during the period July 1-25, 1958.
- a conductor axis located close to, and paralleling the baseline was recognized over a strike length of 2000 feet.
- a report by D. B. Sutherland interpreted the source to be vertical and diamond drilling was recommended.

1960 - diamond drilling by Texasgulf
- July and August: drilled 2891 ft. in 11 holes
- holes spaced at 100 to 200 feet along strike with a total of 1700 feet of strike length tested. ie more or less one tier of holes that intersected the massive sulphide zone up to 300 ft. below surface but the majority pierced the zone within 100 ft. of surface.

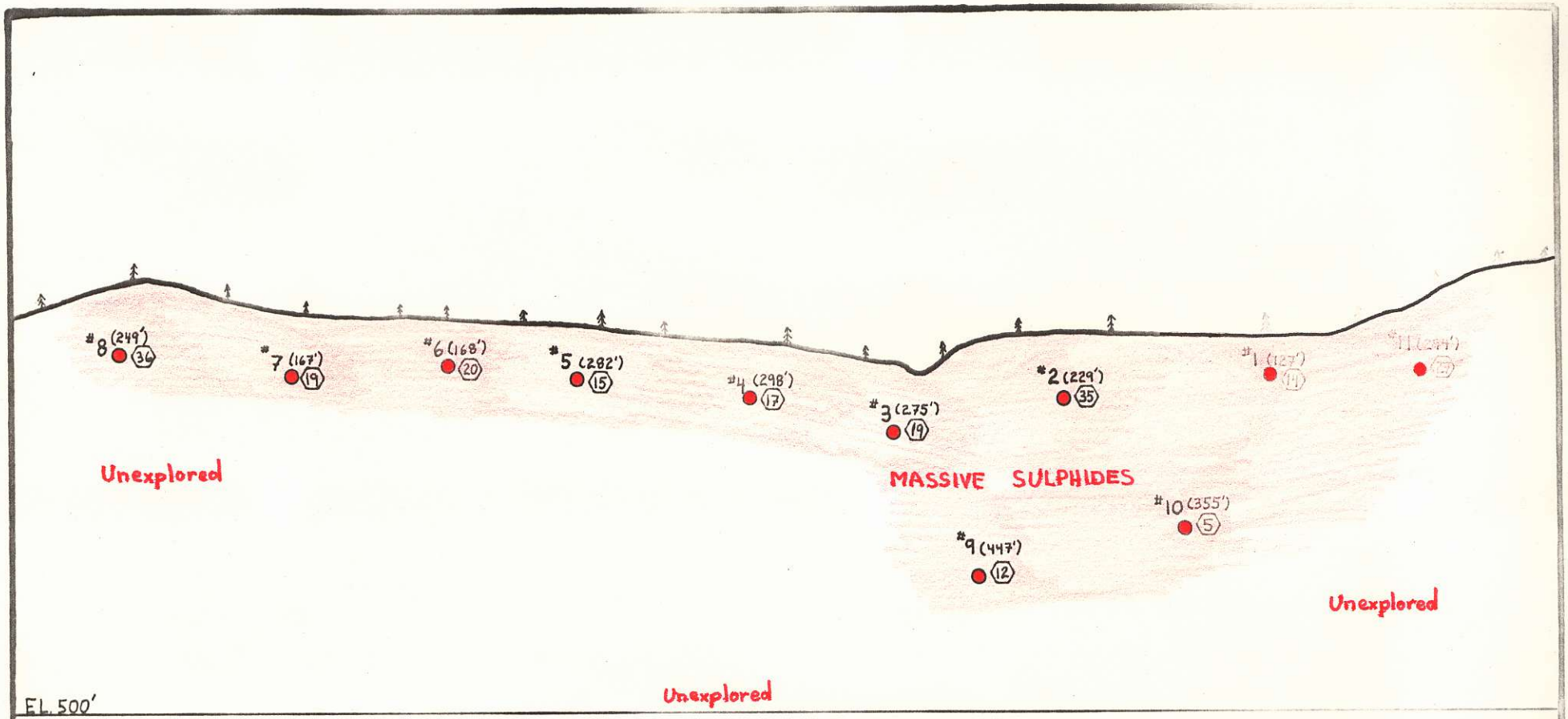

ECSTALL RIVER
GUNNYSACK GROUP
PACKSACK GROUP
SURVEY AREA
8
7
6
5
4
3
2
1
2
1
4
3
6
5
8
7
Deposit
N
Claim Group as per 1972-76
103 H/14W
1:50000
129°22'
53°45'

1960 - every hole intersected massive sulphides with estimated true widths ranging from 2.0-30.0 ft. and often in the 10 to 25 ft. range
- significant Cu, Zn, Ag and Au values have been intersected
- please refer to the longitudinal sketch

1973 - Ground re-staked by Texasgulf, July 26, 1972
- Texasgulf conducted geological (1"=500') and soil geochemical surveys
- Report by P. R. Delancey and J. M. Newell
- Object of survey: to extend known sulphide body and/or discover new deposits
- Geology - property underlain by a series of strongly foliated chlorite to to quartz-sericite schists which strike N-S and dip steeply to the east
  - MS occur within qtz-sericite schist
  - meta-argillites found in western part of claim group where they are in contact with "chlorite diorite"
  - MS up to 20 feet wide and can be traced for +1200 feet
  - hornblende lamprophyre dykes observed
- Geochemistry - 119 soil samples collected at 100 ft. intervals along E-W lines 600' apart
  - difficulty in collecting "B" horizon, therefore the majority of samples collected from "A" horizon
  - sampling "A" horizon in this type of topography is highly questionable!
  - analysed for Cu, Zn and Pb by Bondar-Clegg in Vancouver
  - no positive response
  - no confidence can be put in this survey
  - one pyritic rock chip survey "ran" 59 PPM Cu, 67 PPM Pb, 200 PPM Zn, 1.5 PPM Ag and 5 PPB Au

- Conclusion by T. G.: "Results from these surveys do not encourage hope for extending the known massive sulphide body or discovering other significant MS zones on the Packsack-Gunnysack claim group."

1975 - shootback EM survey by T.G. - July 21-28 incl.
- report by W. A. Gasteiger of Texasgulf in Timmins



$\frac{Cu}{Cu+Zn} \times 100$

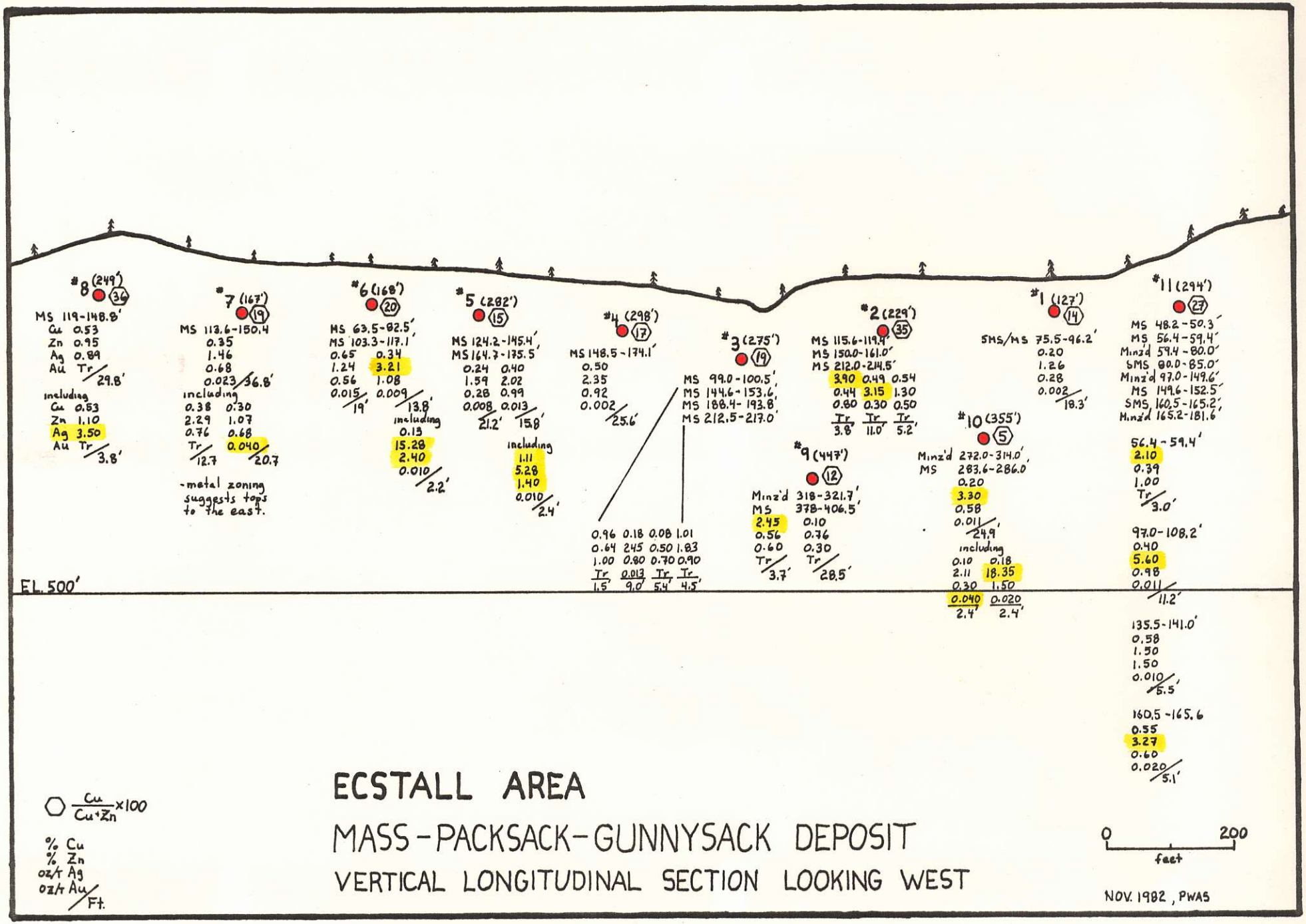
% Cu
% Zn
oz/t Ag
oz/t Au
/Ft.

ECSTALL AREA

MASS-PACKSACK-GUNNYSACK DEPOSIT

VERTICAL LONGITUDINAL SECTION LOOKING WEST

0 200
feet


#8 (249') 36
MS 119-148.8'
Cu 0.53
Zn 0.95
Ag 0.89
Au Tr / 29.8'
including
Cu 0.53
Zn 1.10
Ag 3.50
Au Tr / 3.8'
#7 (167') 19
MS 113.6-150.4
0.35
1.46
0.68
0.023 / 36.8'
including
0.38 0.30
2.29 1.07
0.76 0.68
Tr / 12.7 0.040 / 20.7
-metal zoning suggests tops to the east.
#6 (168') 20
MS 63.5-82.5'
MS 103.3-117.1'
0.65 0.34
1.24 3.21
0.56 1.08
0.015 / 19' 0.009 / 13.8'
including
0.13
15.28
2.40
0.010 / 2.2'
#5 (282') 15
MS 124.2-145.4'
MS 164.7-175.5'
0.24 0.40
1.59 2.02
0.28 0.99
0.008 / 21.2' 0.013 / 15.8'
including
1.11
5.28
1.40
0.010 / 2.4'
#4 (298') 17
MS 148.5-174.1'
0.50
2.35
0.92
0.002 / 25.6'
0.96 0.18 0.08 1.01
0.64 2.45 0.50 1.83
1.00 0.80 0.70 0.90
Tr / 1.5' 0.013 / 9.0' Tr / 5.4' Tr / 4.5'
#3 (275') 19
MS 99.0-100.5'
MS 144.6-153.6'
MS 188.4-193.8'
MS 212.5-217.0'
#9 (447') 12
Minz'd 318-321.7'
MS 378-406.5'
2.45 0.10
0.56 0.76
0.60 0.30
Tr / 3.7' Tr / 28.5'
#2 (229') 35
MS 115.6-119.4'
MS 150.0-161.0'
MS 212.0-214.5'
3.90 0.49 0.54
0.44 3.15 1.30
0.80 0.30 0.50
Tr / 3.8' Tr / 11.0' Tr / 5.2'
#10 (355') 5
Minz'd 272.0-314.0'
MS 283.6-286.0'
0.20
3.30
0.58
0.011 / 24.9'
including
0.10 0.18
2.11 18.35
0.30 1.50
0.040 / 2.4' 0.020 / 2.4'
#1 (127') 14
SMS/MS 75.5-96.2'
0.20
1.26
0.28
0.002 / 18.3'
#11 (294') 27
MS 48.2-50.3'
MS 56.4-59.4'
Minz'd 59.4-80.0'
SMS 80.0-85.0'
Minz'd 97.0-149.6'
MS 149.6-152.5'
SMS 160.5-165.2'
Minz'd 165.2-181.6'
56.4-59.4'
2.10
0.39
1.00
Tr / 3.0'
97.0-108.2'
0.40
5.60
0.98
0.011 / 11.2'
135.5-141.0'
0.58
1.50
1.50
0.010 / 5.5'
160.5-165.6
0.55
3.27
0.60
0.020 / 5.1'
EL. 500'
○ Cu / (Cu+Zn) x100
% Cu
% Zn
oz/t Ag
oz/t Au / Ft.
ECSTALL AREA
MASS-PACKSACK-GUNNYSACK DEPOSIT
VERTICAL LONGITUDINAL SECTION LOOKING WEST
0 200
feet
NOV. 1982, PWAS

1975 - Crone CEM unit, 5010 Hz
- object of survey - attempt to extend known zone further north
- E-W traverse lines at 120M spacings with readings @ 20M
- used horizontal shoot-back mode
- coil separation 80 metres
- Results: previous conductor recognized on lines 580-1060N
  - located a new strong conductor on line 2140N approximately 1100 metres north of the known zone
- Recommendation: prospecting in an attempt to identify the source

1976-1980 - not aware of any work
- ground dropped by Texasgulf
- ground staked by R. Dickenson, on October 2, 1980 and filed Oct. 24, 1980. R. Dickenson, who is president of Dimac transferred the claim to Dimac
- expiry date is October 24, 1982. This claim may have been forfeited already!

RECOMMENDATIONS

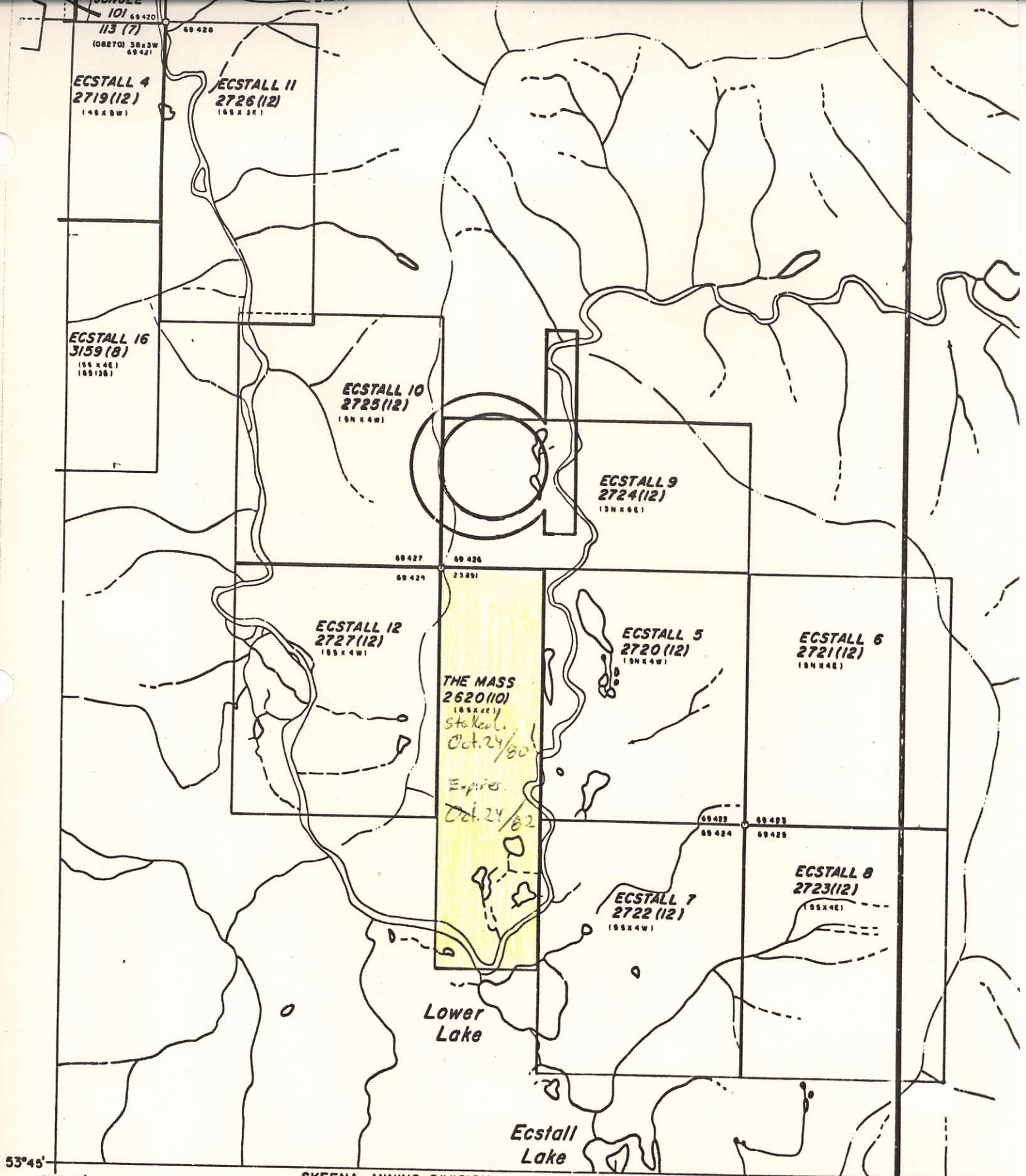
1) Pending a favourable decision regarding a C.F.C. Vancouver office immediate action is required: a) title search
   b) staking

2) If Dimac has extended the expiry date - negotiations should be initiated with Dimac.

Paul Severin

Paul W. A. Severin

js



SKEENA MINING DIVISION

TO SOUTH SEE MAP 103H/11W

Mining Division Boundary
Indian Reservation
Mineral and Placer Reserve
Ecological Reserve
Park Boundary
Recreation Area Boundary

Crown Granted
Peverted C.G. Mineral Claim
Forfeited Mineral Claim
Verified Legal Corner Post
Power Transmission Line
Pipeline

PIPELINE

MINERAL TIT

DEPARTMENT OF A

This map is prepared as a gui
geographic position of a leg

Nov. 1982

To Terrace

To Rupert

SKEENA RIVER

Hwy & Rwy

To Ocean

Hydro Line

ECSTALL RIVER

COAST

MOUNTAINS

Hydro Plant

COAST

MOUNTAINS

ECSTALL

POND

POTENTIAL MINE AREA

MASS

HORSEFLY

STRIKE

QUAAL RIVER

To Douglas Channel

"LOGISTICS SKETCH"

0 Km 7

August 1982
PWG.

inches
centimetres

This reference scale bar has been added to the original image. Its length at frame was as the image, therefore it can be used as a reference for the original size.