

COMINCO LTD.

EXPLORATION
NTS 83 D/1

WESTERN CANADA

ASSESSMENT REPORT
DIAMOND DRILLING
BEND GROUP

Golden Mining District
Cummin's River Area

Latitude 52°03'N

Longitude 118°14'W

Owner of Claims

Cominco Ltd.
700-409 Granville Street
Vancouver, B.C.
V6C 1T2

Operator Cominco Ltd.
Work Performed during June, 1991

June 26, 1991

Reported by A.B. Mawer

21606

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LOG NO: AUG 26 1991 RD.

ACTION:

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ASSESSMENT REPORT
BEND GROUP

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**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,606

ASSESSMENT REPORT 1991
BEND GROUP**1. INTRODUCTION**

This Report outlines the development work on the Bend Group of 12 mineral claims (12 units) situated within the Golden Mining Division, B.C.

During 1991 the exploration program consisted of 1060.9 m of N.Q. core drilling in three holes.

2. SUMMARY

The Bend property is located within the Golden Mining Division at latitude 52°03'N, longitude 118°14'W on map sheet NTS 83 D/1. The area is approximately 137 km NW of Golden, B.C. and lies on the east side of McNaughton Lake at the confluence of Cummins River. The claims are underlain by a mixed assemblage of Lower to Middle Cambrian age sediments consisting of quartzite, limestone, calcareous and garnet-staurolite schists. The units strike northwesterly, dip steeply west and isoclinally folded with 10° northerly plunges.

The showings are exposed on the Cummins River canyon walls and consist of banded massive to stringer pyrite, sphalerite, galena and minor magnetite interbedded with manganiferous and sideritic carbonate and white fine laminated to medium bedded quartzite. The exposures in the canyon walls possibly represent the upper and outer edge of a large stratabound - strataform sulphide sheet or bed. Exploration to date indicates a dip length in excess of 200 metres and a partially exposed strike length in excess of 400 metres. The showings were first located in 1949, staked by Cominco Ltd. in 1966 and explored by geological mapping and 240 metres of short hole drilling in 13 holes. In 1972 Laura Mines optioned the property and carried out a program of soil geochemistry, geological mapping and 480 metres of core drilling in four holes. This work indicated a sulphide sheet averaging 7.3 metres in thickness, in excess of 200 metres of dip length and 250 metres of strike length with an indicated north plunge of 10°. The average grade indicated is 7gm/T Ag, 0.6% Pb, 2.3% Zn. Surface showings to the south and uppermost exposure (now at the high flood level of McNaughton Lake at 2500 ft. (762 m) assayed 2.1 m of 142 g/T Ag, 8.4% Pb, 2.0% Zn with some of the included bands, 7 cm thick assaying 130 to 615 g/T Ag, 3.8 to 25% Pb, 0.1 to 15% Zn. The 1991 program consisted of 1063.9 m of core drilling in three holes. All three holes intersected the down dip projection of the favourable horizon which contained variable amounts of sulphide in bands within the manganiferous dolomite unit.

It is therefore recommended that further drill testing be done on the Bend property for improvement of grade and thickness.

3. PROPERTY

The present Bend Group comprises 12 units in 12 located two post claims as follows:

<u>Claims</u>	<u>Record Nos.</u>	<u>Recorded</u>	<u>Assessment Work Due</u>
Bend Nos. 1-10	11736 to 11745	September 6, 1966	September 9, 1994
Bend Nos. 34 & 35	13212 to 13213	June 22, 1967	June 22, 1995

* Note: Assessment credits for work reported herein shall extend these due dates

4. OWNERSHIP

The Bend Group of 12 claims (12 units) is 100% owned by Cominco Ltd., 700-409 Granville Street, Vancouver, B.C. V6C 1T2

5. LOCATION AND ACCESS

The Bend Group is located within the Golden Mining Division on map sheet NTS 83D/1 at latitude 52°03'N, longitude 118°14'W. The claims are situated astride the Cummins River on the east side of McNaughton Lake approximately 137 km north of Golden, B.C. The area is in part, very precipitous along the deeply incised Cummins River and is covered by dense overgrowth of old burn and mature timber, which in part has been removed by recent logging. The lower part of the Bend showings lie in the Cummins River canyon which is now submerged by flooding of the Mica hydro electric dam to a high flood level of 2500 feet (750 m) elevation. The showings trend southeasterly and northwesterly and have been traced to the south to the 3500 foot (1066.8 m) elevation.

Access to the property is by helicopter from Golden or by boat from Bush Harbour, a distance of 55 km or from Red Rock Harbour, 19 km. During the current program a barge-tug combination of Mica Marine was utilized as transport of equipment and crew from Red Rock Harbour to Tsar Creek Landing and by 8 km of logging road to the property. During the program the camp was serviced by helicopter for Revelstoke, B.C.

6. HISTORY AND DEVELOPMENT

The mineralized showings in Cummins River canyon were first discovered and staked during the construction of the Big Bend Highway in 1949, these claims lapsed and the area restaked as the Bend Group of 45 one unit claims by Cominco in 1966. In 1967 Cominco conducted an exploration program of geological mapping and 240 m of core drilling in 13 short holes.

In 1971 Laura Mines optioned the property and conducted a program consisting of geological mapping, geochemical soil testing and core drilling of 490 m in four holes.

During the period of 1968 to 1974 the claim group was gradually reduced to the 12 claims now being held.

In the last few years Evans Products Ltd. of Golden, B.C. has gradually built access roads to and logged the southern area of the claim group.

In 1987 Cominco conducted a preliminary program of access road construction drill site preparation, geological mapping and sampling.

The current program in June of 1991 consisted of 1060.94 m of N.Q. core drilling in three holes.

7. GEOLOGY

(1) Regional - Refer to Plate 3

The Cummins River area is dominately underlain by Proterozoic to Lower Paleozoic miogeosynclinal rocks that form a thick conformable stratigraphic succession in the western

limb of the Porcupine Creek anticlinorium. The units strike northwesterly and dip southwest. These sedimentary rocks have been metamorphosed to garnet-staurolite grade and the region exhibits well defined metamorphic isograds that trend northwest with grade increasing to the southwest.

The Lower Cambrian Gog and Middle Cambrian Chancellor Groups overlie the Hydrinian Mietter Group in the property area. Three formations of the Gog Group, McNaughton, Mural and Mahto, and two of the Lower Chancellor Group formations Tsar Creek and Kimbasket outcrops in the Cummins River Canyon. The Lower Tsar Creek formation host to the sulphide showings. Within the Tsar Creek formation many layers exhibit tight folds with axial planes striking northwest and dipping steeply southwest. The formations are in part repeated by folding and cut by southwest dipping thrust faults as indicated on the regional map.

There are no late intrusive or volcanic rocks recognized in the immediate Cummins River area.

(2) Property - Refer to Plates 4, 5 & 6

The property is underlain by a conformable sedimentary sequence of Lower to Middle Cambrian age, striking northwesterly and dipping steeply to the southwest, previous mapping had indicated easterly overturned folds in the claim area and it appears that the sulphide showings are on the east limb of a syncline. Thrust faulting has been mapped, but as the fault lies entirely within the Tsar Creek formation, the amount of repetition or offset is difficult to infer.

(2a) Stratigraphy

The oldest rock units exposed on the property belong to the Upper McNaughton formation of the Gog Group and consist of medium to coarse grained white quartzite overlain by quartzite with pelitic interbeds. Buff weathering dolomite and green phyllite occur near the top.

The McNaughton formation is overlain by a 20 to 150 m thick white, pure medium grained in part dolomitic marble and minor calcareous sandstones of the Mural formation. The Mural formation is overlain by the MAHTO formation consisting of 75 to 600 m of quartzite. The quartzite is grey to white and pinkish, thin to medium bedded in part biotitic, ankeritic and or calcareous, the beds in places carry trace amount of pyrite, sphalerite and are stained with pyrolusite.

Overlying is the undivided Tsar Creek formation of 200-600 m in thickness. The formation consists mainly of dark pelitic schists with lenses of sandy carbonate and white marble. The formation locally contains abundant garnet, staurolite and biotite and is phyllitic to schistose. The units generally weather reddish with reddish soil.

In the Cummins River area, where the Bend Group sulphide showings are located, the Tsar Creek formation has been subdivided into the following units beginning at the base:

- 8(a) Lower pelitic schist approximately 80 m thick consisting of dark coloured biotitic garnetiferous, (alamandine), staurolite schist, in part calcareous and with minor interbedded, thin bedded pure white-grey quartzite and minor dolomite.
- 8(b) Quartzite: (possibly a recrystallized chert) white, pure with sericitic partings, thin bedded to laminated, contains local streaks, small pods and disseminations of pyrite, magnetite, sphalerite and galena.

This unit has been subdivided into the following members:

- (b-1) Dolomite: 0 to 10 m thick, a cream to white coloured medium crystalline medium bedded and manganiferous, in part micaceous and weathers a chocolate brown to black

due to the manganese content. This member is the main host for the sulphides and locally contains as many as five to six bands of pyrite, sphalerite, galena and minor magnetite, in addition there are areas of fracture mineralization with abundant white quartz.

8(b2) Sulphide: siliceous (cherty?) sulphide layers alternating with massive sulphide bands consisting of pyrite, pyrrhotite, sphalerite galena, magnetite with minor arsenopyrite and chalcopyrite.

8(c) Upper pelitic schist: silvery grey, garnet (spessartine), staurolite-Kyanite, schist, with sandy and biotitic marble, also contains lenses up to 20-25 metres thick of pure white-grey marble and minor laminated quartzite.

Overlying the Tsar Creek formation is the Kinbasket formation of at least 1,000 metres in thickness with no upper contact established. The formation consists of sandy and silty carbonate, in part pelitic and in part garnetiferous with grey marble lenses as much as 200 m thick.

(2b) Structure

The property covers an area on the western limb of the Porcupine Creek anticlinorium, the rock units strike northwesterly and dip steeply to the southwest. Foliation attitudes are similar in strike but dip more steeply to the south than the bedding. Previous mapping has established an easterly overturned anticline-syncline pair in Cummins River canyon and these folds have an approximate plunge of ten degrees northwesterly. Studies by Simony et al (1980) and Reddy-Godwin (1987) have indicated that stratigraphic tops are younging to the west and Simony (1980) has indicated a westerly dipping thrust within the Tsar Creek formation but very little is known about the amount of repetition or offset.

(2c) Metamorphism

Within the claim area the sediments have been metamorphosed to garnet-staurolite-Kyanite grade with garnets up to 3.5 cm diameter and staurolite crystals to 3 cm long, in part some of the calcareous schists and impure marbles contain biotite porphyroblasts to 1 cm diameter. The region exhibits well defined metamorphic isogrades that trend northwest with increasing grade to the southwest.

(2d) Mineralization - Refer to Map

The sulphide zone is a conformable layer within the manganiferous dolomite and partly within overlying sericitic quartzite. Preliminary mapping indicates that this host dolomite and sulphide layers may in fact be a facies of the quartzite (recrystallized chert). Intense deformation has folded, brecciated, mylonitized and recrystallized most if not all of the sulphide layers.

The mineralized zone can be divided into three units, massive sulphide, siliceous sulphide and mineralized manganiferous dolomite (Reddy 1981). The thickness of the combined layers is five metres at lake level (2500') and thickens down dip to 10 metres (Dodson 1971) below the canyon floor at 2000 feet elevation. The average grade of this showing and drill intersection is 3% zinc, 1% lead and less than 16 grams of silver per tonne.

However one drill intersection (DDHC) drilled in 1967 on the south side immediately above the present flood level at 2500', has a grade of 3% Pb, 12% Zn over 2.0 m (Ag not assayed for) and surface sampling of 2.1 m of 140 gm/T Ag, 8% Pb, 2% Zn. Some individual bands (collected in 1987) 10 cm thick assayed 615 gm/T Ag, 25% Pb, 0.3% Zn and 130.5 gm/T Ag, 3.8% Pb, 14.4% Zn.

Due to the apparent better grade of mineralization on the south side of the Cummins River canyon the 1987 efforts were concentrated in this area to try to establish the actual outcrop

trace and to sample wherever possible. Additional mineralized exposures were located to the south and cleaned off, mapped and samples at the following locations:

- (a) at 2600 feet elevation, three metres of 34.0 gm/T Ag, 1.2% Pb, 2.2% Zn. Note this outcrop is highly oxidized and it is possible a considerable amount of zinc has been leached. Along strike @ 10 metres to the south a 1.5 metre section of partially oxidized sulphides in manganiferous dolomite assayed 132 gm/T Ag, 7.0% Pb, 4.5% Zn.
- (b) at 2700 feet elevation specimens were collected from a rubbly outcrop of manganiferous dolomite with poor exposure and assayed 21 to 87 gm/T Ag, 1.1 to 4.5% Pb, 7 to 15% Zn, the exposed mineralization would not be more than one metre thick.
- (c) at 2900 feet elevation subcrop in a slide area was hand trenched, cleaned off and chip sampled. This showing is in the manganiferous dolomite member and consists of five bands of mineralization more or less evenly spaced across a width of 4.7 metres and the assay average is 4.7 gm/T A, 1.2% Pb, 4.5% Zn, a 2.0 metre section a few metres above the hand trench assayed 136 ppb Au, 28 gm/T Ag, 2.2% Pb, 5.2% Au. Specimens from the individual bands of sulphide from east to west assayed as follows: (R222) @ 116 ppb Au, 4.3 gm/T Ag, 0.1% Pb, 6.1% Zn; (R225) @ 384 ppb Au, 40.4 gm/T Ag, 3.4% Pb, 9.7% Zn; band three not samples; (R226) @ 422 ppb Au, 55 gm/T Ag, 4.7% Pb, 12.4% Zn and (R227) 152 ppb Au, 31.2 gm/T Ag, 2.1% Pb, 10.3% Zn. In addition the overlying sericitic quartzite unit contains fine lenses and rodded disseminations of pyrite black sphalerite and magnetite.
- (d) at the 3000 foot elevation some small rods and fine lenses of pyrite, sphalerite and galena were noted in the sericite quartzite; these were mapped but not samples. The more favourable hosts, the manganiferous dolomite is not exposed at this location but does outcrop at 3500 foot elevation and does contain small oxide zones and a few fine mineralized quartz filled fractures.

Mineralization intersected in the 1991 core drilling is similar in content to that observed in the surface showings. The following is a list of intersections with a brief description of the intercept.

D.D. Hole C91-1 intersected the mineralized horizon at a depth of 294.22 to 299.87 m approximately 150 m down dip as projected for surface showings:

The intersections with assays are as follows: (converted from geochemical analysis)

<u>From</u>	<u>To</u>	<u>Width</u> <u>/m</u>	<u>%</u> <u>Sulph.</u>	<u>%</u> <u>Pb</u>	<u>%</u> <u>Zn</u>	<u>Description</u>
294.22	295.15	0.93	20%	0.50	2.1	Sulphide Rock bands
295.15	296.15	1.0	20%	1.2	4.4	in manganiferous dolomite
296.15	297.15	1.0	5%	Tr	0.5	Sulphide Rock bands
297.15	297.90	0.75	2%	0.18	0.38	in manganiferous dolomite
297.90	298.70	0.80	40%	0.70	3.2	Sulphide Rock bands
298.70	299.70	1.0	70%	1.0	3.5	in manganiferous dolomite

DDH C91-2 approximately 130 m E along strike intersected the mineralized horizon at a depth of 251.9 m to 263.4 m approx. 150 m down dip as projected from surface showing.

The intersections with assays are as follows: (converted from geochemical analysis)

<u>From</u>	<u>To</u>	<u>Width</u> <u>/m</u>	<u>%</u> <u>Sulph.</u>	<u>%</u> <u>Pb</u>	<u>%</u> <u>Zn</u>	<u>Description</u>
252.2	253.45	1.25	80%	2.10	10.20	Sulphide rock
253.45	253.60	0.25	1%	0.18	1.30	Dolomite
253.60	254.30	0.70	70%	0.86	5.80	Sulphide rock
254.30	254.48	0.18	2%	Tr	0.10	Dolomite
254.48	254.60	0.12	90%	1.70	7.70	Sulphide rock
254.60	255.40	0.80	5%	0.70	2.00	Dol-sulphides
255.40	256.40	1.0	10%	0.40	1.50	Dol-sulphides
256.40	257.15	0.75	10%	0.70	2.20	Dol-sulphides
257.15	257.50	0.35	80%	1.60	7.00	Sulphide rock
251.50	258.50	1.0	2%	0.30	1.14	Dolomite
258.50	259.50	1.0	1.0%	Tr	0.60	Dolomite/sulphides
259.50	260.50	1.0	1%	Tr	0.40	Dolomite/sulphides
260.50	261.50	1.0	3%	0.10	0.53	Dolomite/sulphides
261.50	262.00	0.50	5%	Tr	0.35	Dolomite/sulphides
262.00	262.70	0.70	1%	0.1	0.70	Dolomite/sulphides
262.70	263.40	0.70	80%	Tr	0.34	Sulphide Rock

D.D.H. C91-3 approximately 200 m south of C91-2 and a section, intersected the mineralized horizon at a depth of 336.9 m to 341.9 m. This intersection is approximately 100 m higher than projected and indicated either a fold or a fault. The increased thickness of overlying quartzite (chert) and manganiferous dolomite in hole C95-2 possibly indicated the start of an isoclinal fold between the two holes rather than a fault. The mineralized section with assays are as follows: (converted from geochemical analysis)

<u>From</u>	<u>To</u>	<u>Width</u> <u>/m</u>	<u>%</u> <u>Sulph.</u>	<u>%</u> <u>Pb</u>	<u>%</u> <u>Zn</u>	<u>Description</u>
336.9	337.9	1.0	5%	0.35	2.2	Dolomite with sulphide bands
337.9	338.9	1.0	5%	Tr	0.67	Dolomite with sulphide bands
338.9	340.0	1.1	20%	0.54	2.70	Dolomite with sulphide bands
340.0	340.40	0.4	60%	0.15	1.63	Sulphide rock
340.40	341.40	1.0	Tr	Tr	Tr	Dolomite trace sulphides
41.40	342.30	0.9	1%	Tr	Tr	Dolomite trace sulphides

8. GEOPHYSICS

None were done.

9. GEOCHEMISTRY

All rock samples were analyzed geochemically and consisted of measured split core samples. The samples were collected in 9x11 plastic bags and shipped to Cominco Laboratories at 1486 East Pender Street, Vancouver, B.C. The rock samples were crushed, split and pulverized to -200 mesh before hot aqua-regia digestion for Ag, Pb, Zn, Fe determination.

10. DIAMOND DRILLING

Field work in this project began on June 3rd with all drill gear, cat tractor and vehicles being transported by barge from Red Rock Harbour to Tsar Landing on June 4th a distance of approximately 22 km. Previously on June 3rd two mobile homes and the cat were barged from Bush Landing to Tsar Landing a distance of approximately 55 km. The motor homes for the drill crew remained at Tsar Landing and a small tent camp for the geological staff was established at the drill area approximately seven km north along logging access roads.

A 2.3 km water line with two pump stations was established from the nearest water supply to the drill area. The drill access roads and drill site for C91-1 were cleaned out and constructed and all heavy equipment moved to the site by cat tractor. Drilling in C91-1 commenced on June 7th, finished June 10th @ 303.8 m, C91-2 started June 11th, finished June 14th @ 303.9 m, C91-3 started June 14th finished June 19th @ 453.24m. For a total of 1060.94 m in three drill holes.

On the completion of hole C91-3 demobilization began drill sites reclaimed by grading and water barriers installed on access roads, personnel and equipment were moved to Revelstoke on the 21st of June.

<u>DD Hole</u>	<u>N</u>	<u>E</u>	<u>Start</u>	<u>Finish</u>	<u>Length</u> <u>/metres</u>	<u>Brng</u>	<u>Dip</u>	<u>Location</u>
C91-1	29,700 N	30,189 E	June 7	June 10	308.8	010°	-060	Bend 3-4
C91-2	29,680 N	30,304 E	June 11	June 14	303.9	010°	-060	Bend 3-4
C91-3	29,482 N	30,278 E	June 14	June 19	453.24	010°	-060	Bend 3-4

The contractor for this project was Falcon Drilling Ltd., Box 2520 of Prince George, B.C. V2N 2S6. Ph# 564-7786

11. ORE POTENTIAL AND POSSIBILITIES

Previous sampling and drilling has in the lower Cummins River canyon established continuity of the sulphide zone and favourable lithologies, but the grades of Ag, Pb, Zn are subeconomic. In 1987 it was established that the favourable host extends for at least 200-300 m to the east-south east with some improvement of grade and local zones of much higher grade. The 1991 program of core drilling to the south east has indicated interesting grades of Ag Pb Zn in the favourable host rock unit up to 300 m down dip from surface exposures.

12. EQUIPMENT AND BUILDING

A core storage rack and logging bench were constructed near DD Hole C91-2 on claim Bend 1. All core was left in a secure storage position.

13. CONCLUSION AND RECOMMENDATIONS

The 1991 preliminary program of core drilling in three holes has established that the favourable host rock unit extends to at least 300 m down dip to the south-south east and with variable grades of Ag, Pb, Zn. Further drill testing is recommended to test for increased grades and thickness of mineralization that in part may be controlled by structural overprinting

Report by:

A. B. Mawer

A.B. Mawer
Senior Geologist

Authorized for Release:

W. J. Wolfe

W.J. Wolfe
Manager Exploration,

Western Canada

REFERENCES

- (1) Cominco Files
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Reports 1967-87
- (2) GSC Open Files, Reports and Maps
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- (5) Simony, P.S., Chert E.D., Cran. D. Mitchell and Robbins, B.C., 1980,
Structural and Metamorphic Evolution of the Northeast flank of Shuswap Complex,
Southern Canow River Area, B.C., G.S.A. Memoir 153 P. 445-461

APPENDICES

- (1) Appendix A - Affidavit
- (2) Appendix B - Statement of Expenditures
- (3) Appendix C - Statement of Qualifications
- (4) Appendix D - Assay Data

APPENDIX "A"

IN THE MATTER OF THE B.C. MINERAL ACT AND IN THE MATTER OF A PRELIMINARY DIAMOND DRILLING PROGRAM CARRIED OUT ON MINERAL CLAIMS OF THE BEND PROPERTY LOCATED IN THE CUMMINS RIVER AREA, BRITISH COLUMBIA MORE PARTICULARLY N.T.S. 83 D/1.

A F F I D A V I T

I, A.B. MAWER, OF THE DISTRICT OF NORTH VANCOUVER, IN THE PROVINCE OF BRITISH COLUMBIA, SENIOR GEOLOGIST, MAKE OATH AND SAY: -

- (1) THAT I am employed as a senior geologist by Cominco Ltd., and , as such have a personal knowledge of the facts to which I hereinafter depose;
- (2) THAT annexed hereto and marked Appendix "B" to this my affidavit is a true copy of expenditures on Diamond Drilling on the Bend property;
- (3) THAT the said expenditures were incurred between May, 1991 and July 1991, for the purpose of mineral exploration on the above noted property.

Signed:

A. B. Mawer
A.B. Mawer
Senior Geologist

June 27, 1991

APPENDIX "B"

**BEND GROUP ASSESSMENT REPORT
STATEMENT OF EXPENDITURE 1991**

Field work period June 3 to June 22, Supervision core logging splitting - sampling A.B. Mawer 20 days @ \$479/day	\$ 9,580.00
Office report writing map preparation June 24-28 A.B. Mawer 5 days @ \$479/day	2,395.00
Communications mobile radio rental - call charge 20 days @ \$10/day	200.00
Geochemical analysis - 28 @ \$23.85	669.00
Catwork access road and drill site construction and reclamation 20 hrs @ \$45/hr	900.00
Diamond Drilling contract (Falcon Drilling Prince George) 1061 m @ \$56.95/m	60,424.00
Diamond Drilling Supervision (A.L. McGregor + vehicle)	6,000.00
Mobilization-Demobilization (Mica Marine Barge)	5,000.00
Transport - Helicopter	8,000.00
- Vehicle	1,500.00
Domicile - Cominco	1,000.00
Drafting - reproduction, salaries and supplies	<u>1,500.00</u>
Total Expenditure Applicable for assessment credits	\$97,368.00

APPENDIX "C"

STATEMENT OF QUALIFICATIONS

I, A.B. MAWER, SENIOR GEOLOGIST WITH BUSINESS ADDRESS IN VANCOUVER, BRITISH COLUMBIA AND RESIDENTIAL ADDRESS IN NORTH VANCOUVER, BRITISH COLUMBIA HEREBY CERTIFY THAT:

- (1) From 1944 to the present, I have been actively engaged as a prospector and geologist in mineral exploration..
- (2) I am a Fellow of the Geological Association of Canada
- (3) I am a member of the Canadian Institute of Mining and Metallurgy
- (4) I personally supervised the field work on the Bend Group and interpreted the data resulting from this work.



A.B. Mawer
Senior Geologist

June 27, 1991

APPENDIX "D"

BEND-WD

C91-1/2

JOB V 91-0189R
 REPORT DATE 28 JUN 1991

LAB NO	FIELD NUMBER	DRILL INTERVAL		Pb	Zn	Ag	Fe
		FROM (METRES)	TO	PPM	PPM	PPM	%
R9104321	C91-2	252.20	253.45	E20800	E102000	41.7	15.3
R9104322	C91-2	253.45	253.60	1830	E12800	10.6	7.23
R9104323	C91-2	253.60	254.30	8590	E57800	18.9	17.3
R9104324	C91-2	254.30	254.48	365	1090	.5	10
R9104325	C91-2	254.48	254.60	E18600	E76900	29.8	15.6
R9104326	C91-2	254.60	255.40	7420	E19600	11.6	7.67
R9104327	C91-2	255.40	256.40	3960	E14700	6.5	7.76
R9104328	C91-2	256.40	257.15	6720	E21500	11.1	9.8
R9104329	C91-2	257.15	257.50	E16200	E69900	24.6	18.8
R9104330	C91-2	257.50	258.50	2760	E11400	5	9.1
R9104331	C91-2	258.50	259.50	572	5920	1.3	7.54
R9104332	C91-2	259.50	260.50	665	3620	1.7	9
R9104333	C91-2	260.50	261.50	1310	5360	2.4	9.1
R9104334	C91-2	261.50	262.00	254	3480	.6	7.27
R9104335	C91-2	262.00	262.70	1600	7360	3.8	10.9
R9104336	C91-2	262.70	263.40	799	3470	2.8	20.9
R9104337	C91-1	283.80	284.16	124	662	4.4	2.27
R9104338	C91-1	284.16	284.66	182	E10300	4.4	1.57
R9104339	C91-1	287.93	287.63	8140	7680	14.2	1.47
R9104340	C91-1	294.22	295.15	4890	E21400	12.1	13.7
R9104341	C91-1	295.15	296.15	E11700	E43800	27.4	15.7
R9104342	C91-1	296.15	297.15	953	4560	2.4	6.83
R9104343	C91-1	297.15	297.90	1780	3760	2.7	7.66
R9104344	C91-1	297.90	298.70	7000	E31500	14.1	16.6
R9104345	C91-1	298.70	299.70	9740	E35000	10.9	15.3

I=INSUFFICIENT SAMPLE X=SMALL SAMPLE E=EXCEEDS CALIBRATION C=BEING CHECKED R=REVISED
 IF REQUESTED ANALYSES ARE NOT SHOWN /RESULTS ARE TO FOLLOW

ANALYTICAL METHODS

- Pb AQUA REGIA DECOMPOSITION / AAS
- Zn AQUA REGIA DECOMPOSITION / AAS
- Ag AQUA REGIA DECOMPOSITION / AAS
- Fe AQUA REGIA DECOMPOSITION / AAS

BEND-ND

C91-3

JOB V 91-021BR

REPORT DATE 9 JUL 1991

LAB NO	FIELD NUMBER	DRILL INTERVAL		Pb	Zn	Ag	Fe
		FROM (METRES)	TO	PPM	PPM	PPM	%
R9104827	C91-3	336.90	337.90	3870	E21700	10.2	11.4
R9104828	C91-3	337.90	338.90	505	6700	1.4	9.2
R9104829	C91-3	338.90	340.00	5410	E26900	12.7	16.1
R9104830	C91-3	340.00	340.40	1490	E16300	1.8	22.6
R9104831	C91-3	340.40	341.40	158	351	1.4	8.8
R9104832	C91-3	341.40	342.40	174	188	1.4	9.8

I=INSUFFICIENT SAMPLE X=SMALL SAMPLE E=EXCEEDS CALIBRATION C=BEING CHECKED R=REVISED

IF REQUESTED ANALYSES ARE NOT SHOWN RESULTS ARE TO FOLLOW

ANALYTICAL METHODS

Pb AQUA REGIA DECOMPOSITION / AAS

Zn AQUA REGIA DECOMPOSITION / AAS

Ag AQUA REGIA DECOMPOSITION / AAS

Fe AQUA REGIA DECOMPOSITION / AAS

ATTACHMENTS

PLATE

	<u>Scale</u>
(1) Location Map	
(2) Claim Map	
(3) Generalized Geological Map	1:50,000
(4) Geological Plan	1:2,500
(5) Cross section DDH C91-1	1:2,500
(6) Cross section DDH C91-2/C91-3	1:2,500
(7) Drill Logs DD Hole C91-1, C91-2, C91-3	

ACER RESERVE

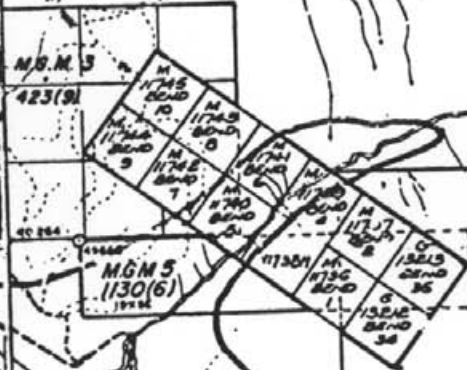
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ACQUIRED

Three Mile Cr.



Three Mile Cr.



bo

MINERAL AND PLACER RESERVE

O.C. 33 5-1-61

RELEASE REQUIRED

ECOLOGICAL RESERVE 56

ECOLOGICAL RESERVE 56

2500 RIVER

Drawn by: Traced by:

Revised 1 By: Date: Revised by: Date:

BEND GROUP CLAIM MAP

Scale: Approx 1:50,000 Date: Plate: 2



Drawn by:	Traced by:
Approved By: _____ Date: _____	Revised By: _____ Date: _____

**BEND PROPERTY
LOCATION**

Scale: 1 inch = 84 mi. Date: _____ Plate: /

DRILL HOLE RECORD

Property: BEND NTS 833 0/1 Coordinates: 29,700N - 30,189E HOLE: C91-1
Claim: BEND 3, BEND 4 Length: 308.8 m Logged by: A.B. Mawer
Dates: June 7th-June 10th Azimuth/Dip: 010°, 060° Date: June, 1991
Contractor: Falcon Drilling Ltd. Core Size: NQ Elevation: 967 m (3175')

Objective:
Summary:

From	To (m)	Description
0-13.7		Overburden: clay-boulders
13.7-24.5		Schist: biotite quartz schist, dark grey, calcareous, thin interbands of grey fine crystalline marble, barren white quartz bands @ 14.0 parallel to foliation Foliation is 045° to core axis
24.5-33.2		Schist: biotite quartz schist-garnetiferous, grey colour, coarse foliation beginning of pink garnets, calcareous. The garnets are dark slightly reddish and up to 1.5 cm diameter. @ 28.0 beginning of distinct fine Kyanite augen, coarse salt and pepper texture, few thin interbands of fine crystalline grey marble, some sections 30-40% garnet, few bands of barren white quartz. All foliation at 045° to core axis.
33.2-33.8		Marble: light grey, medium crystalline, thin banded
33.8-35.2		Schist: biotite, quartz, muscovite, schist, garnetiferous, Kyanite fine to medium foliation, calcareous, core is broken and partly oxidized @ 33.6 to 35.7 (Fault?)
35.2-38.5		Marble: light to dark grey, medium crystalline, thin banded few detached lumps (lenses) of grey schist, few bands of folded schist and marble. Bedding @ 035° to core axis
38.5-40.5		Schist: biotite quartz muscovite schist, calcareous, sections of grey lumpy schist with calcareous matrix, no garnets, few white quartz bands.
40.5-41.5		Marble: grey, medium crystalline, with detached lumps of biotite schist, random orientation. Note all schist sections have trace of pyrite in the folia.
41.5-54.0		Schist: dark grey, fine to medium foliation, development of coarse brown biotite, few large pink garnets, some thin but distinct folia of muscovite, films of fine pyrite @ 42.3 to 43.6 white barren quartz with oxidized siderite a few scattered large garnets @ 2.5 cm diam. some sections of Kyanite augens, the biotite is bronzy on edge. foliation generally @ 035° to core axis.
54.0-57.0		Marble: white-grey, thin banded, some interbedded greyish quartz biotite schist, few barren white quartz bands.
57.0-62.2		Schist: light to dark grey biotite quartz schist, muscovite, garnets calcareous.
62.2-64.0		Marble: light to dark grey, medium crystalline, thin banded, few wisps of Biotite schist, few sections of grey lumpy minerals (cordierite?) Bedding @ 035° to core axis
64.0-65.15		Schist: Biotite, quartz muscovite, dark grey (Kyanite?)

65.15-66.8	Marble:	light to dark grey medium crystalline, thin banded
66.8-75.8	Schist:	biotite, quartz, 20% large garnets, non calcareous @ 72.2-75.3 a light green olive mineral appears probably (staurolite) no distinct crystal shape not equidimensional, one long axis
75.8-87.9	Schist:	dark grey biotite quartz garnet schist, some Kyanite augens, calcareous, few white quartz bands @ 86.0-86.8 infolded grey marble Bedding contact @ 030°
87.9-90.9	Marble:	light to dark grey, medium crystalline, thin banded, relatively pure, minor muscovite laminations. @ 100.0-109.9 becomes clean marble, few quartz bands few sections of small detached and partly rotated grey lumps (siliceous), small isofolds of same angles bedding-foliation Foliation @ 030° to core axis
119.0-127.1	Schist:	light to dark grey biotite quartz, calcareous some sections of detached schist in recrystallized marble, lumpy texture, few quartz bands. @ 121.0 folia is contorted and iso folded to broken and detached folia @ 122.3-122.5 biotite and olive green mineral subhedral to anhedral staurolite lower section has Kyanite porphyroblasts and shreddy to partly formed garnet porphyroblasts.
127.1-129.45	Marble:	light to dark grey, medium crystalline, thin banded relatively clean, minor schist sections transitional contacts
129.45-130.7	Schist:	biotite-quartz garnet schist, well formed to shreddy and subhedral garnet. Foliation 045° to 060°
130.7-133.9	Marble:	light to dark grey, medium crystalline, medium banded clean.
133.9-142.4		Marble interbanded biotite quartz garnet schist, the interbands are approximately 20 to 30 cm thick. The marble does not contain garnets, few quartz bands, all schists have minor pyrrhotite or pyrite folia
142.4-156.5	Marble:	light to dark grey, medium crystalline, thin banded, few sections of interbedded biotite quartz schist and biotite Kyanite augen schist. Coarse salt and pepper texture no garnets to 155.5 m.
156.5-161.3	Schist:	biotite quartz schist, dark grey, medium folia, calcareous with a few 20 cm thick marble interbeds few nodular or lumpy grey sections, few biotite porphyroblasts @ 160.7-161.0 grey dense quartz
161.3-163.3	Marble:	dark grey to white striped, medium crystalline, folded one 20 cm biotite schist interband near lower contact Bedding @ 045°
163.3-174.0	Schist & Marble	biotite quartz schist with very coarse biotite, calcareous, no garnets @ 164.0-164.5 grey marble
174.0-180.1	Marble:	light to dark grey, medium crystalline, medium banded, few detached lumpy sections, few bands of barren quartz calcite Bedded @ 060°
180.1-181.1	Schist:	biotite quartz schist, calcareous, lumpy grey nodules
183.6-184.5	Schist:	biotite quartz, garniferous schist, garnets dark reddish to grey, to 2 cm diam. The schist has a lot of grey siliceous lumps (5mm.) in the folia. Foliation @ 060°
184.5-185.2	Marble:	Dark grey to light grey, thin banded medium crystalline

185.2-227.9	Schist:	<p>biotite-quartz, garnet schist, dark grey, garnets are euhedral, dark reddish to black, to 2.5 cm diam, in part calcareous some garnets show incipient growth some grey minerals (cordierite?) Core is not calcareous @ 201.5-207.0 beginning of abundant olive green mineral general 2-5mm but anhedral and subhedral vague cross section with one long axis suggests staurolite. The garnets are generally dark to reddish black. Some sections of sericite schist with fish roe texture.</p> <p>@ 222.8 well developed staurolite crystalline (specimens) Foliation, generally 030° but can be as low as 010°</p>
227.9-247.25	Marble:	<p>white to grey medium crystalline, medium bedded some interbedded garnetiferous schist. @ 229.8-230.3 core is oxidized and altered fault zone? @ 234.3-238.0 50% interbedded biotite quartz schist, few biotite wisps in the marble</p>
247.25-269.0	Schist:	<p>biotite, quartz schist, calcareous, few interbands of marble, minor garnet to 252.5 then large reddish garnets to 2.0 cm dia. @ 251.9 a few thin pyrite lenticules @ 255.3 the garnets are more pinkish Foliation @ 050° to 060°</p>
269.0-272.9	Marble:	<p>light to dark grey medium crystalline, medium banded few biotite porphyroblasts. Bedding 080° to 030°</p>
272.9-283.8	Schist:	<p>biotite-quartz, garnet schist, dark grey to black garnets to 2 cm dia. 273.5-275.0 white barren quartz @ 275.0 nodular texture (specimen) some fish roe texture. garnets mainly pinkish @ 279.4-279.7 green mineral (epidote?, andalusite?) subhedral @ 277.5 coarse fishroe texture (product of alteration?) at contact large reddish garnets.</p>
283.8-294.22	Quartzite	<p>(or recrystallized red chert) light green to white very thin bedded (laminated). Contact is transitional over 20 cm., some elongated pink mineral similar texture as garnet but long axis, sericitic partings in lamina, traces of pyrrhotite and pyrite @ 284.00 clean (clear) quartzite with rodged red brown sphalerite, pyrrhotite pyrite @ 284.16 sharp contact with interlaminated red brown sphalerite to 284.70 est. 3% Zn. Bedding is 65° to core axis the quartzite has fine interlamina of lenticules of pyrrhotite and occasional a wispy pink mineral with one long axis.</p>
294.22-299.87	Dolomite:	<p>a manganiferrous carbonate probably a chemical (precipitate) creamy grey medium crystalline, siliceous cherty looking laminations, traces of sericite, massive rock rarely banded except with sulphide or (quartzite?) @294.3-294.36 banded to laminated pyrite, sphalerite magnetite, the magnetite occurs as isolated 1 mm dia. grains. @294.36-294.52 sulphide rock, red brown sphalerite with buck shot pyrite @295.15-295.83 scattered irregular bands of sulphide @295.83-295.94 sulphide rock, buckshot pyrite red brown sphalerite @297.15-297.90 dolomite has a few irregular bands of sulphide @ 297.9-298.06 interbanded sulphide and dolomite @298.16-298.30 sulphide rock-pyrite-sphalerite</p> <p>@298.42-298.54 sulphide rock, buckshot pyrite red brown sphalerite traces of galena Bedding or banding at 065° to 075° @298.70-294.70 sulphide rock, buckshot pyrite red brown sphalerite, some remnant dolomite, some interstitued silica</p>
299.87-301.2	Quartzite:	<p>white grey to greenish very fine grained, thin banded to laminated flecks or tiny rods of pyrrhotite, fractures in lower section</p>

301.2-306.3 Schist: olive grey to tan when dry, fine folia, garnetiferous, non calcareous, few interlamination of quartzite, appears to be some olive greenish staurolite, garnets pink and to 1 cmm diameter.

306.3-308.8 Quartzite: white to grey, thin bedded to laminated, with biotite schist interbands, trace pyrrhotite, and tiny biotite porphyroblasts in quartzite the quartzite has abundant sericite, incipient grains of pink minerals are long axis few grains of magnetite, this quartzite is similar to upper quartzite @ 283.8-294.22

END OF HOLE

130.6-133.2	Marble:	light to dark grey medium crystalline, thin laminated to banded, scattered wisps of grey schist, Bedding 045°
133.2-157.9	Schist:	biotite quartz garnet schist @ 138.4-140.1 abundant olive green mineral, anhedral as usual (Staurolite)? specimens, garnet grey to pinkish, to 1.5 cm dia. @ 143.3-148.5 abundant olive green mineral, grey mineral and garnets a distinctive spotted schist. @ 156.7 few olive green grains subhedral with large euhedral red garnets @ 157.1 grey spotted schist @ 154.0-154.3 thin banded marble @ 155.0 scattered grains of Kyanite Foliation @ 060°
157.9-191.2	Marble:	light to dark grey medium crystalline medium banded, interbedded biotite schist, large garnets in the schist bands (3 cm diam.) few sections of greyish spotted mineral in the marble
191.2-205.3	Schist:	biotite quartz garnet schist, calcareous, light grey when dry few marble bands, some large garnets to 3.5 cm diameter @ 195.1 @ 204.6 sections of grey (siliceous) nodules, some pink garnets Fault gauge at contact with marble Foliation @ 065°
205.3-207.0	Marble:	light to dark grey, medium crystalline, fractured and oxidized Bedding 060°
207.0-221.2	Schist:	biotite, garnet, the garnets are ragged anhedral @ 209.5 grey nodular section (Lapilli tuff?) @ 210 m some silvery grey sections all calcareous @ 221.2-221.9 nodular lumpy schists
221.2-224.0	Schist:	nodular muscovite garnet schist distinctive fish roe texture, in part altered to
224.0-226.9	Quartzite:	interbedded talc spotted muscovite garnet schist traces of red brown sphalerite and pyrrhotite in the fine grained clear quartzite, iso folding is evident
226.9-251.9	Quartzite:	grey when wet thin laminated medium to fine grained tiny pyrrhotite flecks or lenticels parallel to bedding the quartzite has sericite and sericitic partings, a very distinctive unit, fractured with Fe Mn oxide fine flecks of tan brown mineral (sphene? rutile?), occasional pink garnet to 7 mm dia. Bedding 080°
251.91-252.2	Dolomite:	(a manganiferous chemical precipitate) light cream, medium crystalline few interlamination of watery quartzite trace pyrite and red sphalerite
252.2-253.45	Sulphide Rock:	red brown sphalerite, buckshot pyrite, scattered 1 to 3 mm dia. magnetic grains, some remnant bands and wisps of dolomite, folded in part
253.45-253.00	Dolomite:	grey medium crystalline, massive few fractures with coarse red sphalerite
253.60-254.30	Sulphide Rock:	red sphalerite buckshot pyrite, few wisps and lamination of dolomite @ 253.7-253.8 mostly disseminated banded magnetite
254.30-254.48	Dolomite:	creamy grey-medium crystalline massive trace pyrite-sphalerite
254.48-254.60	Sulphide Rock:	very fine grained sphalerite and pyrite

254.60-257.15	Dolomite:	creamy grey, medium crystalline, massive, few stringers of sulphides
257.15-257.50	Sulphide Rock:	red sphalerite, buckshot pyrite abundant grains of magnetite, few remnants of dolomite
257.50-258.2	Dolomite:	grey-medium crystalline, massive, few bands of sulphide
258.2-263.4	Dolomite:	light grey medium to very fine grained, thin bands of sulphide to fine wispy sections, massive bedded few bands of granular pyrite with traces of red sphalerite @ 262.7-263.2 massive granular pyrite rock with trace of red brown sphalerite
263.4-264.4	Quartzite:	white-very fine grained, with sulphide flecks, thin laminated, sericitic at lower contact garnetiferous tan to creamy garnet schist. Bedding 080°
264.4-272.0	Schist:	creamy to tan muscovite schist with garnet, garnets are 1 cm diam., few traces of kyanite, gradational to quartzite over 20 cm
272.0-287.2	Quartzite:	very fine grained clean, similar to appearance to quartzite dolomite, has abundant flecks of pyrrhotite with some red sphalerite at 272.30 m this quartzite is more massive, less sericitic and not finely bedded, few small pink garnets, at contact muscovite schist and pyrite band
287.2-291.7	Schist:	dark grey-black biotite garnet schist, few random crystals of olive green brown mineral (staurolite)? also black biotite porphyroblasts.
291.7-293.6	Quartzite:	light grey to dark grey in part biotitic, medium grained, thin bedded, few random pinkish porphyroblasts
293.6-303.9	Schist:	light grey muscovite schist with porphyroblasts of garnets, biotite and staurolite, the staurolite is olive brownish green, to 2 cm long a distinctive staurolite schist

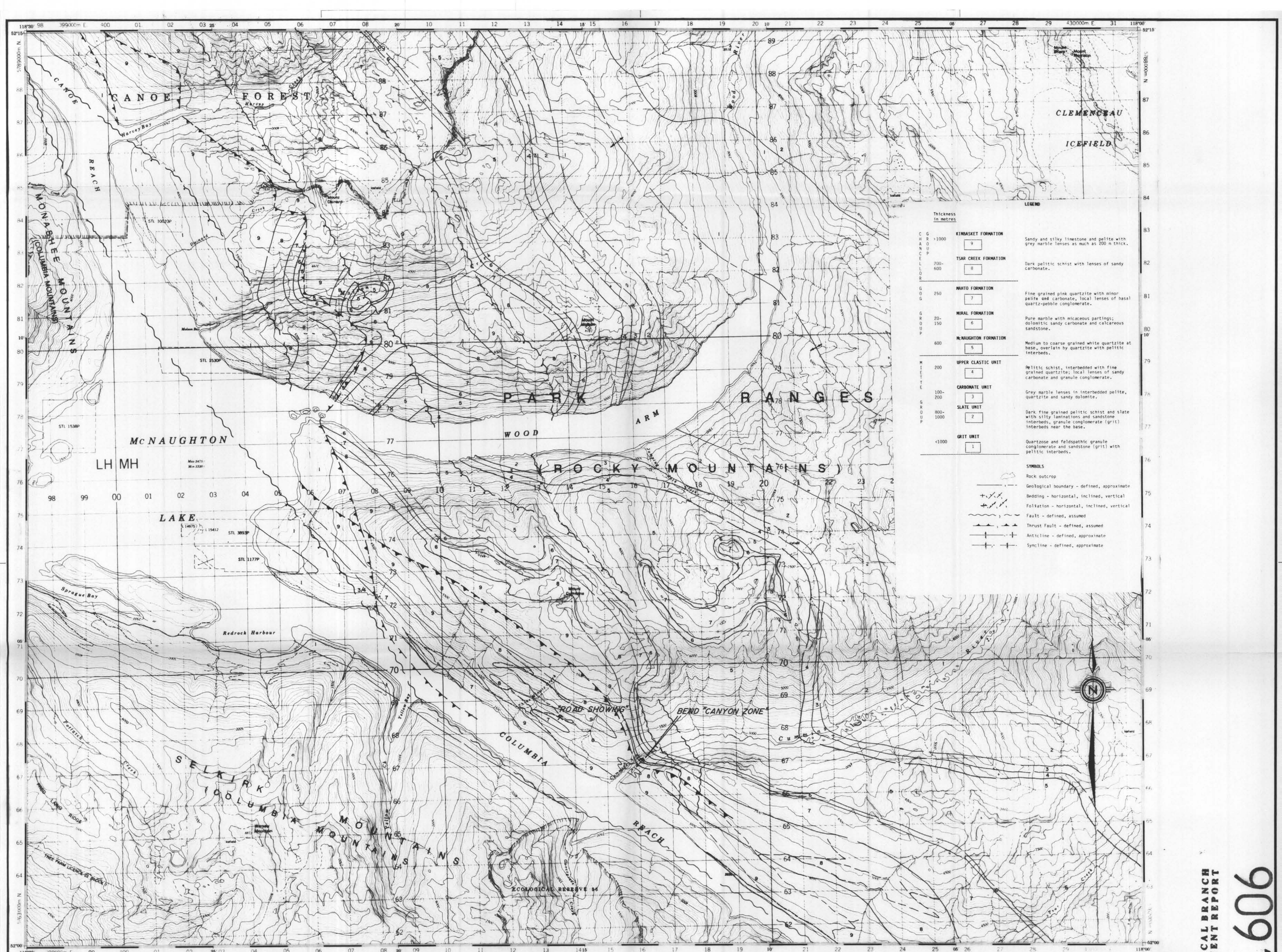
END OF HOLE

148.8-153.9	Marble: & Schist:	light to dark grey, medium crystalline, interbedded biotite schist to 157.6 m @ 156.2 the interbedded biotite schist has abundant grey ovoid minerals developed, approximately 50% biotite schist with few quartz bands, Foliation @ 060°
153.9-163.1	Schist:	dark grey biotite quartz schist, few thin bands of calcareous grey medium grain and quartzite, few bands white quartz, some grey nodular sections @ 160.5-161.3 grey marble @ 161.8 a few small pink garnets
163.1-168.4	Marble:	white to light grey, medium crystalline, medium bedded
168.4-174.1	Schist:	biotite, quartz, garnet, staurolite schist, the staurolite is greyish, garnets are dark red, some olive green staurolite, biotite porphyroblastic, Foliation @ 060°
174.1-179.2	Marble:	white to light grey medium crystalline, medium banded minor schist interbands near base
179.2-186.2	Schist:	biotite, quartz staurolite schist, light grey, calcareous with a few marble interbeds at 10 cm thick @ 185.5-185.7 grey nodular schist
186.2 197.8	Marble: & Schist:	interbedded grey marble and calcareous biotite quartz schist thin banded one section of disturbed and disrupted banding, few biotite porphyroblasts, few garnets in the schist to 197.3m, few quartz bands a few sections of grey-white striped marble. Foliation @ 060°
197.8-199.4	Schist:	biotite, staurolite, quartz schist, 30% white quartz bands
199.4-202.3	Marble:	light to dark grey medium crystalline, medium banded few white quartz bands, few bands biotite schist Bedding 060°
202.3-204.5	Schist:	biotite quartz schist, 20% white quartz bands few olive green staurolites, abundant grey mineral (staurolite?)
204.5-218.5	Marble:	white-grey, medium crystalline, medium bedded, few lumpy sections, some interbanded biotite schist, few quartz bands Bedding @ 060°
218.5-225.4	Schist:	biotite-quartz and green amphibole schist (hornblende schist?) calcareous with interbeds of grey marble @ 219.1 biotite schist with lumpy dark green mineral with well developed cleavage in one direction probably hornblende @ 221.6 interbedded biotitic grey quartzite and olive green staurolite @ 224.6 bedding is contorted and parallel to core axis
225.4-244.1	Schist:	black-biotite quartz garnet staurolite schist, non calcareous, folia contoured with lumpy grey mineral, the garnets are pink, subhedral to shreddy showing incipient growth @ 231.4-232.2 white quartz with good identifiable Kyanite crystals and sheaves at contacts with the quartz @ 233.6 few laminations of pyrite 1 cm x 3 cm @ 234.8-235.0 white quartz with pyrrhotite in fractures @ 236.8 pyrrhotite laminations in biotite schist with interbedded grey in fine grained quartzite @ 236.7 pink almandine garnets @ 240.0 few sections of abundant olive green staurolite, and a few dark green hornblende porphyroblasts @ 239.6-242.0 abundant olive green staurolite garnet and scattered Kyanite Variable Foliation - generally @ 060°

244.1-245.4	Marble:	light to dark grey medium crystalline
245.4-248.7	Schist:	sericite quartz with lumpy grey-green mineral (hornblende?) few pyrrhotite lumps and laminations, large reddish garnets at 3.5 cm diam., this section of schist looks partly altered
248.7-250.0	Marble:	light grey to dark grey medium crystalline Bedding @ 080°
250.0-267.20	Schist:	biotite quartz, garnet, staurolite, kyanite, hornblende schist, few reddish garnets with diam. of 3.5 cm., this schist has more disseminated and lenticules of pyrrhotite than observed previously @ 260.0 a few lumpy sections appears to be incipient growth of dark green (amphibole) hornblende porphyroblasts, few pink almandine garnets, increasingly calcareous near contact with marble Foliation @ 060°
267.20-283.2	Marble:	light to dark grey, medium crystalline, medium banded, 30% interbedded schist from 267.2 to 269.2, few sections of interbedded biotite schist with grey fine grained quartzite
283.2-317.9	Schist:	grey to dark grey to black biotite quartz, garnet hornblende biotite porphyroblastic schist @ 289.6 white quartz and very large diam garnet, section up to 3.5 cm diam. to 292.7 m. core becomes calcareous with marble interbands @ 300.0-300.6, 301.0-302.6 and 307.8-308.7 olive green staurolite with scattered kyanite and pink garnets at 315.1 to 316.2 several short sections of alteration between 310.0 to 317.6 m showing alteration runs on crystals of garnet and amphibole Foliation @ 070° to 065°
317.9-336.9	Quartzite:	light greenish when wet, white when dry, thin laminated, fine grained contact area has interhealed biotite schist with scattered anhedral garnet @ 318.2 thin 5mm band of sphalerite in sericitic schist @ 319.5-319.6 1 to 2% sphalerite in sericitic quartzite same sections of quartzite is watery to almost clean with scattered lenticules of pyrrhotite trace sphalerite, traces of reddish sphalerite at 324.6, 325.0, 325.1, 326.2, Bedding at 020°
336.9-341.9	Dolomite:	white to creamy fresh, outcrop weathers to black manganese oxides (a chemical sediment?) medium crystalline, massive few clear silica bands (chert?) @ 337.0 a 5 cm band of biotite with pyrite, red brown sphalerite and magnetite @ 337.65 a 3 cm irregular band of massive coarse red brown sphalerite with pyrite magnetite and trace galena @ 337.9-338.9 some interbedded greyish fine laminated quartzite few scattered bands of sulphides @ 338.9-340.0 20% interbanded sulphide @ 340.0-340.4 60% interbanded sulphide rock @ 340.4-341.4 dolomite with 2% sulphide @ 340.4-342.3 dolomite 2% sulphide in thin siliceous bands Bedding @ 065
341.9-342.5	Quartzite:	white thin laminated very fine grained with pyrrhotite flecks or tiny lenticules sericitic in part, a distinctive unit similar to upper quartz @ 317.9-336.9
342.5-348.5	Schist:	biotite quartz, garnet schist black when wet, a distinctive tan creamy colour when dry, 30% interbedded biotitic quartzite

		@ 348.0-348.5 interbands of clean watery quartzite with pyrrhotite lenticules
348.5-355.1	Quartzite:	white to light grey, clean, very fine grained (cherty looking) faint clear banding medium banded, some sericitic partings distinctive with pyrrhotite flecks and tiny lenticules Bedding @ 060°
355.1-356.50	Quartzite:	grey medium grained, thin bedded, few garnets impure biotitic Bedding @ 060°
356.50-357.30	Quartzite:	light greenish grey, very fine grained, thin bedded, sericitic partings, lenticules of pyrrhotite
357.30-358.40	Schist:	biotite quartz, garnet, schist, silvery grey to creamy
358.40-360.4	Quartzite:	dark grey medium grained thin bedded, biotitic similar to quartz @ 342.5-348.5 few garnets
360.4-371.9	Quartzite:	clean watery very fine grained, greeny-grey thin bedded with sericitic partings, few thin pyrrhotite laminations some pyrrhotite lenticules, few white quartz sections to 367.4 @ 367.9-370.9 very fine grained, almost cherty looking lower 60 cm small iso folds, short transitions to garnet schist. Bedding at 065° generally 055°
371.9-379.1	Schist:	light silvery grey muscovite garnet biotite schist @ 374.5 olive green brownish staurolite showing up @ 377.0 becomes staurolite garnet biotite quartz schist, the garnets are all same diam. at 0.4cm the staurolite is up to 8mm across section, few amphibole hornblende porphyroblasts @ 377.65 10 cm with quartz band with pyrrhotite lenses @ 374.5 scattered bundles and sheaves of Kyanite Foliation @ 050°
379.1-381.2	Quartzite:	light grey medium grained thin bedded, biotitic and garnetiferous
381.2-386.7	Schist & Quartzite:	biotite, garnet quartz schist with garnets to 1 cm diameter @ 381.7 two 1 cm bands of pyrrhotite weakly magnetic @ 386.3-386.5 quartz with green minerals
386.7-414.8	Schist:	silvery grey muscovite staurolite, garnet biotite schist a distinctive schist the staurolites are olive green to brown @ 388.2 scattered kyanite sheaves and bundles @ 395.2 large staurolite xls to 7mm cross section, also a few twinned xls. Foliation generally @ 060° to 065°
414.8-421.3	Schist:	muscovite garnet biotite staurolite schist, silvery grey fine foliation few quartz bands with kyanite in adjacent schists @ 418.0 a few grey siliceous bands showing up
421.3-429.0	Quartzite:	dark grey, fine grained biotitic with scattered sections with biotite porphyroblasts, and garnet Bedding 060°
429.0-453.0	Quartzite:	light grey, very fine grained (cherty) clear to watery, minor sericite in bedding planes, massive to thick bedded, few pyrrhotite laminations of tiny lenticules. @ 430.0-432.6 impure biotic garnetiferous quartz @ 473.0 impure biotic quartz 445.8 interbedded pure watery very fine grained quartz and biotic quartz with minor small garnets (2 to 3 mm), the clean watery quartzite has some sections with flecks of tiny lenticules of pyrrhotite similar to quartz above dolomite except it is not sericitic and not thin bedded to laminated Bedding @ 080°

END OF HOLE



LEGEND

Thickness in metres	Unit	Description
>1000	KINBASKET FORMATION	Sandy and silty limestone and pelite with grey marble lenses as much as 200 m thick.
700-600	TSAR CREEK FORMATION	Dark pelitic schist with lenses of sandy carbonate.
250	MINTO FORMATION	Fine grained pink quartzite with minor pelite and carbonate; local lenses of basal quartz-pebble conglomerate.
20-150	MIRAL FORMATION	Pure marble with micaceous partings; dolomitic sandy carbonate and calcareous sandstone.
600	McNAUGHTON FORMATION	Medium to coarse grained white quartzite at base, overlain by quartzite with pelitic interbeds.
200	UPPER CLASTIC UNIT	Pelitic schist, interbedded with fine grained quartzite; local lenses of sandy carbonate and granule conglomerate.
100-200	CARBONATE UNIT	Grey marble lenses in interbedded pelite, quartzite and sandy dolomite.
800-1000	SLATE UNIT	Dark fine grained pelitic schist and slate with silty laminations and sandstone interbeds, granule conglomerate (grit) interbeds near the base.
<1000	GRIT UNIT	Quartzose and feldspathic granule conglomerate and sandstone (grit) with pelitic interbeds.

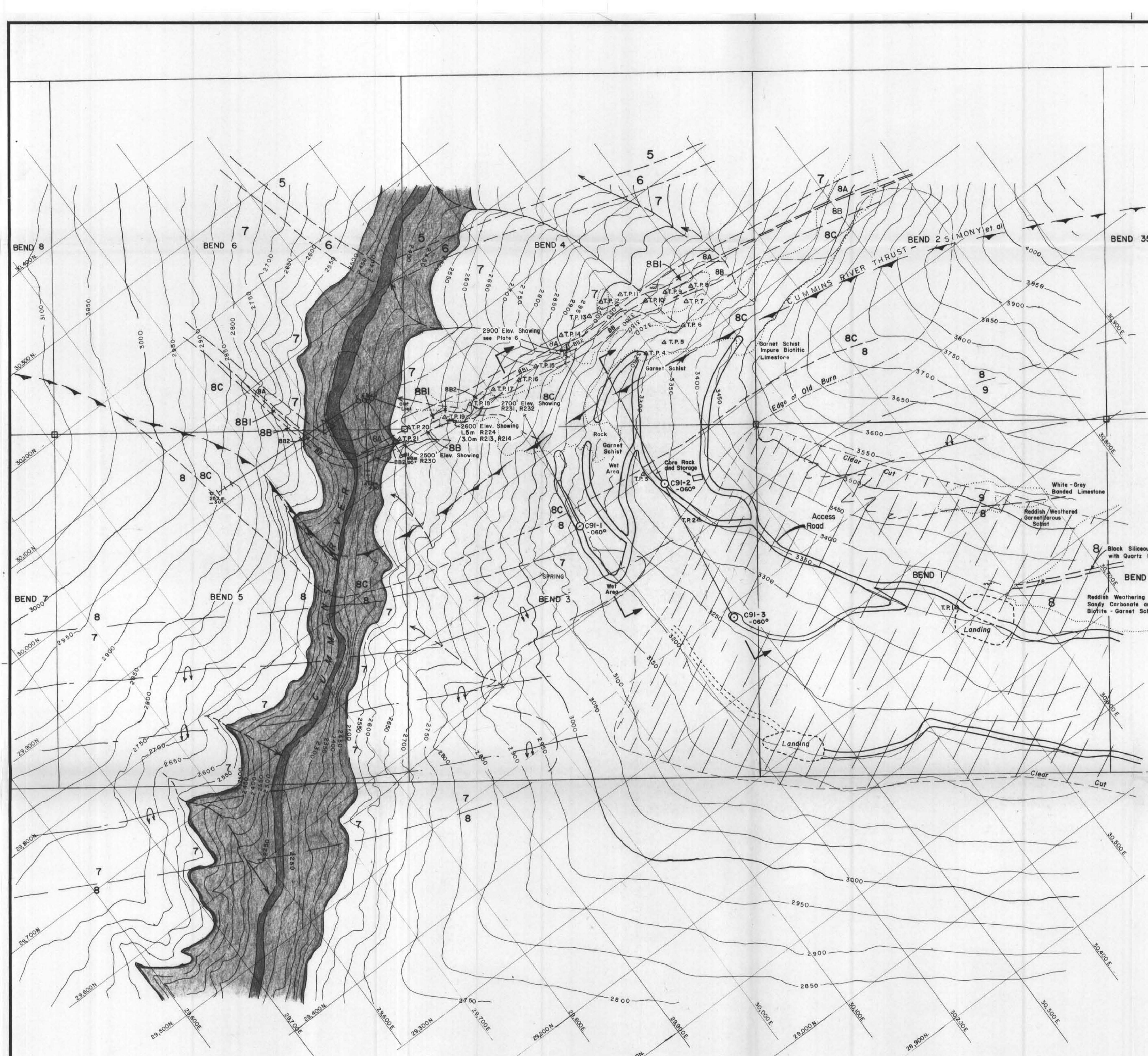
- SYMBOLS**
- Rock outcrop
 - Geological boundary - defined, approximate
 - Bedding - horizontal, inclined, vertical
 - Foliation - horizontal, inclined, vertical
 - Fault - defined, assumed
 - Thrust fault - defined, assumed
 - Anticline - defined, approximate
 - Syncline - defined, approximate

0 1 2 3 4 5 km
SCALE - 1:50,000

NOTE: Geology after Simony et al 1980

Pb/Zn GENERAL - WOOD ARM		NTS 83D/1
Drawn by: ABM	Traced by: ABM	
Revised by: ABM	Revised by: ABM	GENERALIZED GEOLOGICAL MAP
ABM	Mar./87	
Scale: 1:50,000	Date: Mar./87	Plate: 3

GEOLOGICAL BRANCH
ASSESSMENT REPORT
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Thickness in Metres

>1000	KINBASKET FORMATION 9	Sandy and silty limestone, minor pelite in part garnetiferous. Pelite with grey marble lenses as much as 200 m. thick.
200-600	TSAR CREEK FORMATION 8	Undivided dark pelitic schist with lenses of sandy carbonate, locally garnetiferous and biotitic, generally weathers reddish with reddish soil.
>150	8C	Upper pelitic schist, silvery grey, garnet staurolite-kyanite schist to in part calcareous, rare quartzite
0-100	8C1	Interbedded pure marble
0-10	8B	Quartzite (recrystallized chert) white pure to micaceous, then bedded to laminated, disseminated to rodded pyrite pyrrhotite sphalerite and galena
0-10	8B1	Dolomite - manganese cream to brown on fresh surface, weathers to a chocolate brown colour, in part micaceous and contains fractures and lenses of massive pyrite, sphalerite and galena
1-10	8B2	Sulphides, siliceous sulphide layers alternating with massive sulphides of pyrite pyrrhotite, sphalerite galena, magnetite with minor arsenopyrite and chalcopyrite
80	8A	Lower pelitic schist, dark biotitic garnetiferous, staurolite schist; in part calcareous interbedded quartzite and minor dolomite (almadine garnets)
75-600	MAHTO FORMATION 7	Quartzite, grey to white and pinkish, thin to medium bedded, biotitic, in part arkosic and calcareous, traces of pyrite and sphalerite, little manganese stain
20-150	MURAL FORMATION 6	Marble - white pure medium grained in part dolomitic and calcareous sandstone
600	MCAUGHTON FORMATION 5	Quartzite medium to coarse grained white quartzite at base overlain by quartzite with pelitic interbeds, buff weathering dolomite (5a), and green phyllite occur near the top.

- SYMBOLS**
- Rock outcrop
 - Geological boundary defined approximate
 - Bedding horizontal, inclined, vertical
 - Foliation horizontal, inclined, vertical
 - Fault defined, assumed
 - Thrust Fault defined, assumed
 - Anticline defined, approximate
 - Syncline defined, approximate
 - Drill Site
 - Turning Point - chain and compass survey

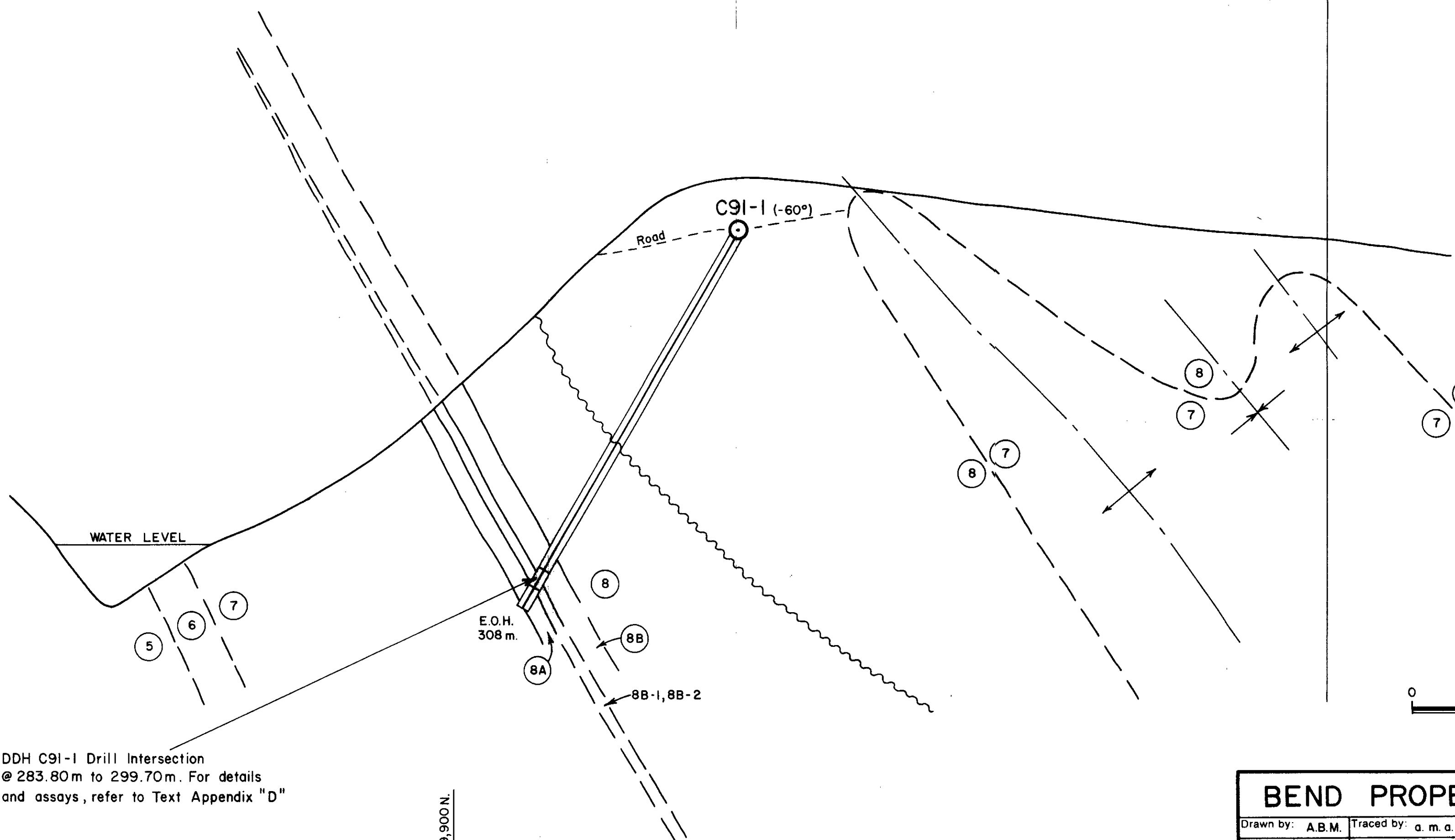
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,606



BEND GROUP		N.T.S. 83D/1			
Drawn by: <i>ABM</i>	Traced by: <i>ABM</i>	GEOLOGICAL PLAN			
Revised by: <i>ABM</i>	Date: <i>26/87</i>			Revised by: <i>ABM</i>	Date: <i>26/87</i>
<i>ABM</i>	<i>28/87</i>			<i>ABM</i>	<i>28/87</i>
<i>ABM</i>	<i>28/87</i>			<i>ABM</i>	<i>28/87</i>
Scale: 1:2500		Date: FEB/87	Plate: 4		

CLAIM BOUNDARY

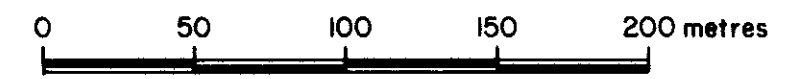


**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,606


LEGEND

Refer to Plate 4

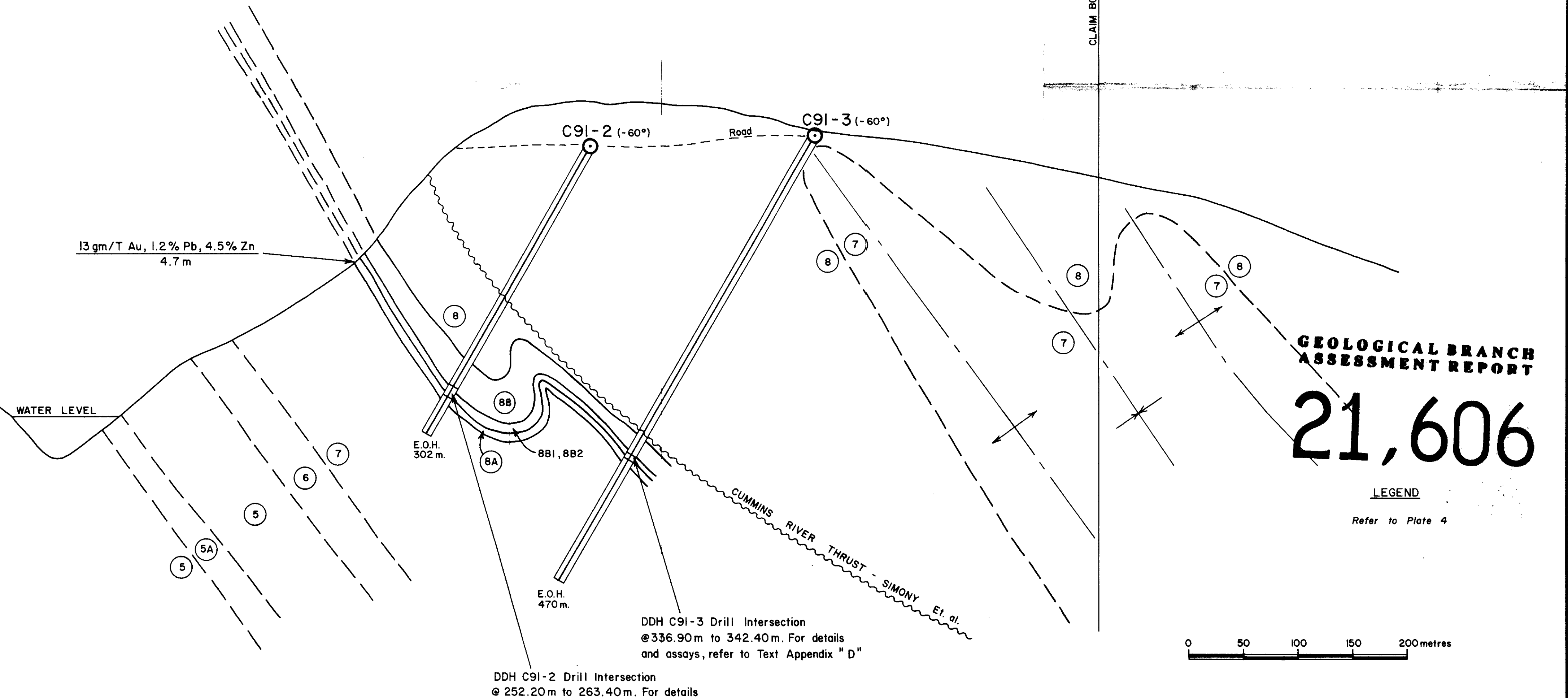


DDH C91-1 Drill Intersection
@ 283.80m to 299.70m. For details
and assays, refer to Text Appendix "D"

REF. LINE 29,900 N.

BEND PROPERTY				 83 D/1	
Drawn by: A.B.M.		Traced by: a. m. a.		CROSS SECTION D.D.H. C91-1	
Revised by	Date	Revised by	Date		
				GOLDEN M.D., B.C.	
Scale: 1 : 2500		Date: July 2, 1991		Plate: 5	

CLAIM BOUNDARY



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,606

LEGEND
Refer to Plate 4

DDH C91-3 Drill Intersection
@ 336.90 m to 342.40 m. For details
and assays, refer to Text Appendix "D"

DDH C91-2 Drill Intersection
@ 252.20 m to 263.40 m. For details
and assays, refer to Text Appendix "D"

REF. LINE 29,900 N.

BEND PROPERTY

83 D/1

Drawn by: A.B.M.		Traced by: a. m. a.	
Revised by	Date	Revised by	Date

CROSS SECTION
D.D.H.s C91-2 and 3
GOLDEN M.D., B.C.
Scale: 1 : 2500 Date: July 2, 1991 Plate: 6