

GEOLOGICAL, GEOCHEMICAL and GEOPHYSICAL REPORT
on the
LEDGE 1 to 8 and JUNE 1 to 9 MINERAL CLAIMS
81-4870-9651
LEDGE EXTENSION PROPERTY

SLOCAN MINING DIVISION
N.T.S. 82K/5; 82L/8; 82K/12
LAT. 50°28'; LONG 118°00'

ESPERANZA EXPLORATIONS LTD.
VANCOUVER, B.C.

- OWNER -

E & B EXPLORATIONS INC.
VANCOUVER, B.C.

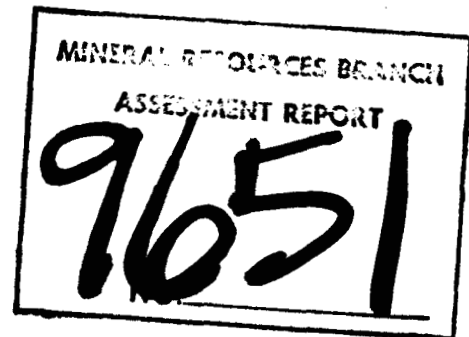
- OPERATOR -

J. RICHARDSON, P.Eng.

- CONSULTANT -

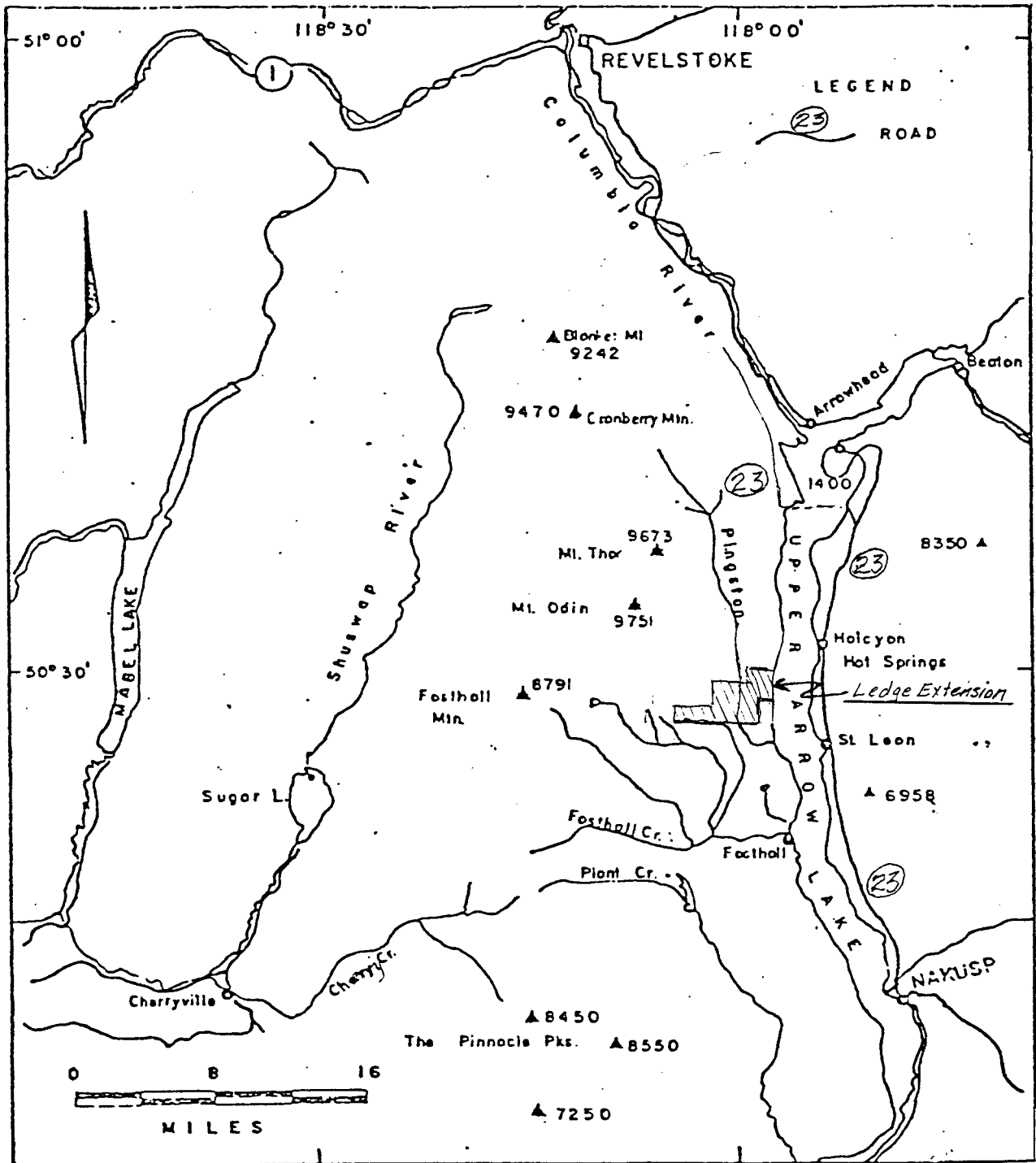
REPORT BY:
J. RICHARDSON

OCTOBER, 1981



T A B L E O F C O N T E N T S

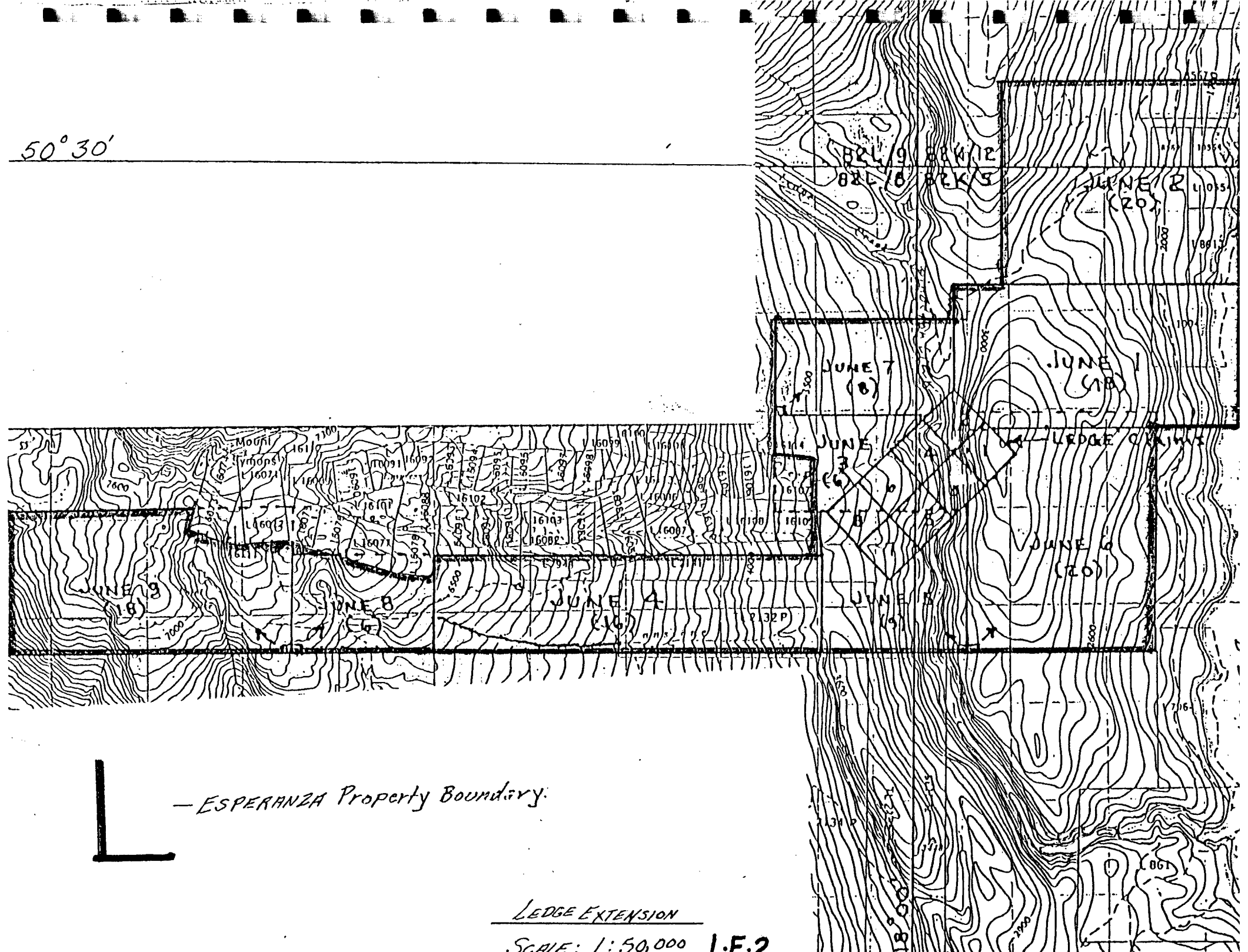
	<u>PAGE</u>
INTRODUCTION	1
(i) Location	1
(ii) Property	1
(iii) History	2
(iv) Mineralization	3
(v) Work Done	3
GENERAL GEOLOGY	5
STRUCTURE	7
MINERALIZATION	7
GEOPHYSICAL SURVEY	11
GEOCHEMICAL SURVEY	13
CONCLUSIONS	14
ATTACHMENTS	16
APPENDICES	16
REFERENCES	16



LEDGE EXTENSION
Index Map

L.E.1

50° 30'



— ESPERANZA Property Boundary.

LEDGE EXTENSION

SCALE: 1:50,000 I.F.2

INTRODUCTION

(i) Location

The Ledge Extension claims are located in the Monashee Mountains of southeastern British Columbia on the west side of Upper Arrow Lake. Elevation of the property ranges from 490 m. at lake level to 2,290 m. at the west end of the claims. Access is by Highway 23 south from Revelstoke or north from Nakusp to Shelter Bay Ferry Landing, then south for 32 kilometers along a well-developed system of B.C. Timber logging roads to the eastern claims. The western claims, June 4, 8, and 9, are not presently accessible by road.

Geologically, the property is within a thick heterogeneous assemblage of metasedimentary rocks in the southern part of the Thor-odin gneiss dome along the eastern margin of the Shuswap Complex.

(ii) Property

The property is comprised of the following claims:

<u>Claim</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Record Date</u>	<u>Expiry Date</u>
June 1	18	1351(7)	19 Jul./79	19 Jul./83
June 2	20	1350(7)	19 Jul./79	19 Jul./83
June 3	6	1349(7)	19 Jul./79	19 Jul./83
June 4	16	1348(7)	19 Jul./79	19 Jul./83
June 5	9	2486(4)	23 Apr./81	23 Apr./83
June 6	20	2487(4)	23 Apr./81	23 Apr./83
June 7	8	2488(4)	23 Apr./81	23 Apr./82
June 8	6	2489(4)	23 Apr./81	23 Apr./82
June 9	18	2490(4)	23 Apr./81	23 Apr./82
Ledge 1 - 8	<u>8</u>	825-832(8)	30 Aug./78	30 Aug./84
TOTAL UNITS	129			

The June 1-4 claims are owned by Esperanza Explorations Ltd. of 1027-470 Granville Street, Vancouver, B.C., V6C 1V5, and the Ledge claims are held by Esperanza under the "Fowler-Cusick Option."

All of the claims are currently held by E & B Explorations, Inc. under an option agreement with Esperanza. E & B are the operators of the current exploration program.

(iii) History

Discoveries of mineralization in the Ledge area were first made in the 1890's but little systematic work was done until 1947 when Cominco acquired a large part of the conformable mineralized structure. From then until 1966 that company did considerable diamond drilling and carried out extensive geological mapping and limited geophysical and geochemical surveys. This work resulted in defining the Ledge Mineralized Member over a strike length of some 14 kilometers from Mt. Symons in the west to the west shore of Upper Arrow Lake near the old Lime Kiln. Cominco subsequently retained the western eight kilometers of the Ledge Member. The eastern part of the structure remained essentially unclaimed until 1979 when it was acquired, along with the down-dip projection of the eastern part of Cominco's ground, by the present owners. Esperanza then optioned the Ledge 1-8 and June 1-4 claims to E & B and subsequently E & B added the contiguous June 5, 6, 7, 8, and 9 claims, which also became part of the option agreement. The latter company then became operator of the exploration program the field work of which was carried out for a few days in June and continuously from 2 July to 7 August, 1981.

(iv) Mineralization

The field work comprised reconnaissance and detailed geological mapping along with magnetometer and soil geochemical surveys in selected areas. Notwithstanding the extreme scarcity of outcrop, this work generally indicated the presence and position of the conformable Ledge Mineralized Member through the extensively covered area from Pingston Creek northeasterly to the west shore of Upper Arrow Lake. From evidence provided by our geological, geophysical and geochemical work, along with a number of widely spaced drill holes by Cominco and Northwest Zinc and by analogy with the remarkable continuity of mineralization in the well-exposed high ground to the west, the continuity of mineralization throughout Esperanza's ground is assumed. Accordingly, there is a vast amount of sulfide mineralization within the latter's claims. However, the grade is low as shown by former drill holes which averaged only 2% - 2.5% zinc over widths of 10'-15'.

(v) Work Done

Geochemical Survey - a soil geochemical survey comprising 507 samples assayed for Zn and Pb, as shown in the attached Appendix I, was carried out in parts of June 1, 2, and 7 claims. Samples in the "B" horizon were taken at 20 m. intervals along lines 100 m. apart over the assumed projection of the Ledge Member.

Geophysical Survey - a geophysical survey with a proton precision type magnetometer was done over the same grid as described under the geochemical survey,

above. The survey comprised a total of 17.1 kilometers of lines. The lines were run by chain and compass and blazed and flagged.

Geological Surveys - Detailed and/or reconnaissance geological mapping was carried out over most of all the claims except June 8 and 9. Outcrop on the property is very sparse, exposures being limited to Pingston Creek Canyon, on a few isolated ridges, intermittently in some of the more deeply incised streams, and locally in small rock cuts along the system of logging roads. Air photos were of essentially no use in locating rock exposures because of the very thick forest cover. The surface mapping was supplemented by data contained in the records of some of the former drill holes, but core from essentially all of these holes was not available. Also the writer's knowledge of the stratigraphy, structure and mineralization gained by his exploration work in the immediate area during four intermittent seasons over a period of 14 years was drawn on to a considerable extent in support of the present study.

Drilling and Trenching - No drilling or trenching was done during the course of the 1981 exploration program. A D-6 bulldozer was employed for a period of 12 hours in rehabilitating old exploration roads and clearing a campsite.

Line Cutting - A total of 17.1 kilometers of line was established by chain and compass for the magnetometer and geochemical surveys and to provide control to locate old drill holes.

Work on Claims

<u>Claim</u>	<u>Geological</u>	<u>Geophysical</u>	<u>Geochemical</u>	<u>Road Work</u>
June 1	x	x	x	
June 2	x	x	x	
June 3	x			
June 4	x			x
June 5	x			x
June 6	x			
June 7	x	x	x	
June 8				
June 9				
Ledge 1	x			
Ledge 2	x			
Ledge 3	x			
Ledge 4	x			
Ledge 5	x			
Ledge 6	x			
Ledge 7	x			x
Ledge 8	x			

GENERAL GEOLOGY

The property is underlain for the most part by a very thick heterogenous assemblage of metasedimentary rocks in the southern part of the Thor-Odin gneiss dome along the eastern margin of the Shuswap Complex. These strata are somewhere within the Monashee Group which A.G. Jones (G.S.C. Memoir 296) places at the base of the Shuswap Terrain and estimates to be several tens of thousands feet thick. The layered rocks are intruded by a north-trending

pluton of leucogranite in the eastern parts of June 1 and June 6 mining claims. Elsewhere in the property, minor injections of pegmatite are ubiquitous in the schist and gneiss members.

Because of the extreme scarcity of outcrop and sub surface information it was not possible to establish a stratigraphic section of the various lithologies, but from what little information is available it appears that the lithological units are essentially the same as those in the well-exposed high ground to the west of the property. However, it is quite probable that the section is modified to some extent by structural complexities and changes of metamorphic and or sedimentary facies along strike, but insufficient data are available to determine the details of any such stratigraphic, structural or metamorphic changes.

The stratum of main interest is the so-called Ledge Member, as it is host to all of the known mineralization in the area. The footwall and hanging wall of this member is comprised of alternating beds of quartz-mica schist and hornblende and feldspar-garnet gneisses interspersed with pure white quartzite and marble members. The latter members provide good stratigraphic markers, the most continuous of which is the so-called Burnt Ridge marble in the hanging wall of the Ledge. This member consists of three closely spaced white marble bands totalling 75 m. in thickness. It is well exposed in Vanstone Creek along the south boundary of June 4 claim, and continues into June 5 where it swings abruptly northeasterly to cross Pingston Creek near the northwest corner of June 6. East of here this excellent marker is unfortunately obscured by a large talus slide on the east wall of Pingston Canyon and is apparently engulfed further east by the large leucogranite pluton.

STRUCTURE

The Burnt Ridge marble member, along with more restrictive evidence provided by the hanging wall white quartzite marker in the northwest corner of June 1 and the hanging wall white marble marker in June 2, clearly demonstrates that the persistent easterly strike of the strata from Mt. Symons in the west changes abruptly near the west boundary of June 5, 3, and 7 claims to a northeasterly strike through the extensively covered ground from here to the west shore of Upper Arrow Lake.

In the easterly-striking portion the dip of the strata is generally 30° - 35° south-southeast, but steepens to about 45° in the northeasterly striking portion. A few local deviations in the attitude of the strata indicate the presence of faults or flexures but the sparse, widely spread exposures did not provide any other evidence of the tectonics of the area. However, from the author's prior experience in mapping the well exposed ground to the west of Esperanza's claims and the work of Jones (G.S.C. Memoir 296) and Hoy (B.C. Dept. Mines) it is agreed that the structure of the area is comprised of a series of westerly striking tight folds which dip south, are overturned to the north, and plunge at 10° - 15° to the east and northeast. No evidence of any significant faulting was found during the course of the present mapping.

MINERALIZATION

Conformable mineralization consisting of pyrrhotite, pyrite and sphalerite with a minor amount of galena occurs in certain bands within the so-called Ledge Member which has been traced in outcrops and by diamond drill holes for

a distance of some 12 kilometers from Mt. Symons east and northeasterly to within a kilometer of the west shore of Upper Arrow Lake. The Ledge Member is a distinctive unit lying within a thick series of schists and gneisses. This very rusty weathering member is 30' to 200' thick and consists of a sequence of impure micaceous limestone and siltstone both of which are characterized by up to 15% graphite.

In Esperanza's ground Ledge mineralization outcrops only in two areas - intermittently in a series of old trenches north of Sunshine Creek along the north boundary of Ledge 2 and 5 claims and again where Line 4E crosses the Lime Kiln logging road. Elsewhere in the property the mineralization is revealed only in old (1952 and 1966) diamond drill holes. There is a gap of 2.5 kilometers in the Ledge Member from the west set of drill holes to D.H.61 on Line 2E in the central part of June 2 M.C. Detailed mapping along and in the vicinity of the grid lines showed that this area is covered extensively by thick accumulations of glacial and fluvioglacial deposits. In order to determine the existence and position of the Ledge member through this covered area a grid was established for control for a magnetometer and geochemical soil survey. Neither survey gave any definite indication of the Ledge Member in the area between Lines 0N and 17N where mapping showed the presence of very thick ridges of glacial material. However, in the area between Lines 0E and 12E, where road cuts showed much thinner surficial deposits, both surveys and a few outcrops indicated the continuity of the Ledge through here.

Although mineralization is present through a vertical range of 2300 m. on Mt. Symons to about 425 m. at the lake

shore, this does not necessarily indicate that the width of the mineralized sheets is of this order. The apparent width is not only a function of the true width but is also a function of the shallow (10° - 15°) plunge of the mineralization down the slope of the land to the east towards the lake. Some old drill holes in the vicinity of the headwaters of Trout Creek intersected Ledge mineralization to a down-dip depth of about 800'. However, two very deep drill holes by Northwest Zinc in 1967 in June 4 and 8 claims apparently did not intersect the mineralized Ledge Member. Their failure to do so is probably due to some structural or stratigraphic complexities, because the writer's examination of the partially preserved core from the east hole showed a considerable section of a hanging wall marble member which is very much thicker than any found on surface or in the shallower drill holes to the north.

The average grade of mineralization in the old drill holes in Esperanza's claims is only 2%-2 1/2% zinc over 10'-15'. This is about 50% of the average grade in the well exposed and well drilled ground to the west. In the latter area, it had been observed that both the grade and width of mineralization are enhanced in a number of flat easterly plunging flexures of significant size in the Ledge strata. It was hoped that detailed mapping, supplemented with magnetometer and soil surveys, along the assumed trend of the Ledge Member in the east claims, particularly in the vicinity of the abrupt change in strike, would indicate the presence of similar ore-enhancing controlling structures. The great scarcity of outcrop in this area precluded the possibility of locating such structures. It is not surprising that the few old drill holes also apparently did not intersect any of these flat plunging, canoe-shaped bodies as they are very

difficult drilling targets where detailed geological information is not available.

An analysis of drag folds in the Ledge Member in the exposed area to the west of Esperanza's claims indicates that the strata are overturned to the north and that the mineralization is on the overturned northern limb of an easterly plunging anticline. On the other hand, although T. Hoy (B.C. Dept. Mines) agrees that the strata are compressed into a series of folds inclined to the south and overturned to the north, he recently suggested that at least the western part of the Ledge Member is in the core of an antiform and that the Ledge is not a single layer, but rather part of a succession that is repeated by folding. The author is not in agreement with this suggestion and is of the opinion that the Ledge is a single unit up to 75 meters wide, generally containing four separate bands of conformable mineralization, and that it is on the north limb of an overturned anticline. If the latter interpretation is valid, there is the possibility of the Ledge recurring somewhere on the south-facing slope of Vanstone Creek. It is possible that a small occurrence of Ledge-type mineralization exposed in a gully near the northwest corner of June 8 M.C. represents a south limb zone. However, repeated efforts to find a mineralized trend on this thickly covered slope have been unsuccessful. The writer's interpretation of the structure is based on the assumption that the Burnt Ridge and Empress Lake limestones are the same members repeated in the overturned anticline. Some support for this assumption is provided by the apparent convergence of the two limestone members immediately to the west of Pingston Creek as this convergence accords with the presence of an easterly plunging overturned anticline. The few exposures of other strata in the vicinity of the Burnt Ridge limestone in

June 4 M.C. do not provide sufficient evidence to determine whether they are footwall or hanging wall rocks of the Ledge Member.

GEOPHYSICAL SURVEY (Plan # L.E.4)

A magnetometer survey was done over the entire grid extending northeasterly for three kilometers from Pingston Creek to within one kilometer of the west shore of Upper Arrow Lake. Readings were taken at 20 m. intervals along lines spaced 100 m. apart. A total of 17.1 linekilometers was surveyed. Line control was by chain and compass.

The instrument used was a GSM-8 proton precession magnetometer rented from GEM Systems of Willowdale, Ontario. Readings were taken by W.G. Sisson, a 2nd-year geology student at McMaster University, under the supervision of the writer, J. Richardson, P.Eng.

The plotted values in gammas are absolute and represent the total intensity of the magnetic field less 58,000 gammas. All readings were corrected for diurnal and day-to-day variations in the magnetic field. This was accomplished by setting up a net of conveniently located field base stations on the first day of the survey. Diurnally corrected values were thus established for each of the base stations and all subsequent field readings were related to the established values of these stations, which were occupied approximately every two hours during the course of the survey. The readings in gammas, so corrected, are plotted on the accompanying Plan #L.E.4 at a scale of 1:5,000. Contours were drawn generally at 50 gamma intervals except where the magnetic gradient is very steep.

The purpose of the survey was to determine the existence and position of the Ledge Mineralized Member through the extensively covered area east of Pingston Creek. The magnetic method was chosen because of the considerable amount of pyrrhotite present in the Ledge mineralization. The survey failed to indicate the Ledge here because of the considerable thickness of surficial deposits. However, in the east grid area where road cuts show much thinner overburden, the Ledge is well indicated as shown in the Plan. A series of anomalous high and low readings were obtained along the trace of the Ledge. This is believed to be due to the di-pole effect of short linear sulfide lenses controlled by flatly-plunging drag folds, as described in the section under "Mineralization". Such bodies are roughly equivalent to bar magnets, thus both poles are effective. This appears to be the case at Line 4E where old drill holes failed to get intersections at shallow depth comparable to the thick massive sulfide outcrop immediate above them.

The slightly anomalous readings along the north edge of the grid from Line 0E to Line 5E are believed to be due to a footwall hornblendite band rather than sulfides, but no outcrops are present in the vicinity to confirm this assumption.

During the early part of the survey in mid-July rather severe magnetic storms were experienced. They were manifested by very erratic readings at any one station within the matter of a few minutes. Such readings were not recorded and the survey was delayed during the storm periods.

GEOCHEMICAL SURVEY (Plan #L.E.5)

A geochemical survey was conducted over the same grid as for the geophysical grid described above and shown on Plan #L.E.5. The survey comprised sampling the upper part of the B soil horizon which generally occurs at a depth of 20 to 35 cm. The samples were collected at 20 meters intervals on lines 100 meters apart. They were collected, under the supervision of the writer, J. Richardson, P. Eng., by the following personnel:

K.I. Swartz - 4 seasons geochem sampling with Hi-Tech
Resource Management

A.J. Muirhead - 1 season geochem sampling with Hi-Tech
Resource Management

G. Croker - B.Sc (Geology) U.B.C. 1972

W.G. Sisson - 2nd year Geology, McMaster University

A total of 507 soil samples was taken and were analyzed by Vangeochem Lab. Ltd., 1521 Pemberton Ave., North Vancouver, B.C. for zinc and lead in units of parts per million (ppm). The values in ppm are shown on Plan # L.E.5 with zinc values plotted to the east of the cross-lines and lead values to the west. The size fraction of the sample used for analysis was 80 mesh, sifted by hand in a stainless steel sieve. The 0.5 gram samples were digested by perchlorate and nitrate reagents at a concentration of 65% and 15%. The material was then analyzed by the atomic absorption method with a Techtron A.A.5 unit. Much of the area of the west grid is clean-cut logged and this resulted in the soil profile being disturbed in several places. No samples were taken in these areas.

As with the magnetometer survey, the soil survey did not indicate the assumed trace of the Ledge Member throughout the west grid due to the very thick surficial cover. However, in the east grid, where there is much lighter cover, the soil samples outlined the trace of the Ledge generally very well. The trace is shown by dotted lines like so. . . . 2 . . . on Plan # L.E.5.

CONCLUSIONS

June M.C's 1, 2, and 3 and the eight Ledge claims were acquired to cover the possible northeasterly extension of the mineralized Ledge Member from the east end of Cominco's claims to the west shore of Upper Arrow Lake. Since this area is more than 95% overburden covered, the geological mapping was supplemented with geophysical and geochemical surveys to aid in tracing the member. Notwithstanding the extreme scarcity of outcrop, the current work generally indicated the presence and position of the Ledge through this area.

Two widely spaced sets of former drill holes near either end of the structure gave intersections averaging 2% - 2.5% zinc over widths of 10'-15'. From the writer's previous experience in the well exposed and extensively drilled ground to the west, it was observed that the higher grade mineralization there was due, to a considerable extent, to the presence of thickened and richer lenses in the ore sheets which are controlled by elongated, flatly plunging secondary folds. It was hoped that in the vicinity of the abrupt change in strike of the strata from east to northeasterly at the west end of June 3 M.C. that there would be an increase in the number and size of these secondary ore controlling structures, and thus higher grade ore in this part of the Ledge. The great scarcity

of rock exposures here precluded the possibility of locating such structures. Nevertheless, the remarkable continuity of some 5 kilometers to the Ledge mineralization through Esperanza's ground indicates that there is a vast quantity of zinc here. As previously mentioned, limited drill testing shows that it is low grade. Accordingly, it must be considered only as a resource for the future. At the present time it is far down the economic scale.

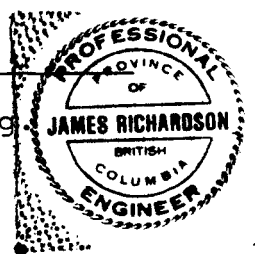
June 4, 5, 6, 7, 8, and 9 mineral claims were staked to cover the down-dip projection of the Ledge and, in the western part of the area also to cover a possible repetition of the Ledge on the south limb of an assumed anticline. The down-dip projection of the Ledge is covered by Cominco's south bank of claims north of June 4, 8, and 9 to a dip length of a few thousands feet as shown by two deep vertical holes (approximately 2000') drilled by Northwest Zinc along the north boundary of June 4 and June 8 which apparently did not intersect the Ledge Member.

A small outcrop of Ledge-type mineralization is present in the large gully about one kilometer east of Paint Lake, in June 8 claim. It is possible that this may represent the Ledge Member on the southern, upright limb of the aforementioned assumed anticline containing the Ledge on its overturned northern limb. However, repeated efforts to find the strike continuity of this mineralization and other strata to support the assumed structure have been in vain due to the great lack of outcrop in this area.

Report by:

J. Richardson

J. Richardson, P. Eng.
Consulting Geologist
28 September 1981



ATTACHMENTS

- Plan L.E.1 - Property Location
- Plan L.E.2 - Esperanza Claims - 1:50,000
- Plan L.E.3 - Geology - 1:10,000
- Plan L.E.4 - Magnetometer Survey - 1:5,000
- Plan L.E.5 - Geochemical Survey - 1:5,000

APPENDICES

- Appendix 1 - Soil Sample Assays
- Appendix 2 - Itemized Cost Statement
- Appendix 3 - Author's Qualifications

REFERENCES

- G.S.C. Summary Report, 1928, Part A - pp. 109-118.
- G.S.C. Memoir 296
- G.S.C. Bulletin 195
- T.Hoy - B.C. Dept. Mines, pp. 612-618
- Assessment Report No. 66.

APPENDIX 1

SOIL GEOCHEMICAL ANALYSES



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

VR
 TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.
 #1440 - 800 W. Pender St.
 Vancouver, B.C. V6C 2V6

Attention:

Report No: 81-39-012 Page 1 of 13
 Samples Arrived: July 17, 1981
 Report Completed: July 27, 1981
 For Project: Ledge E
 Analyst: E.T. & Staff
 Invoice: 6335 Job # 81-206

Sample Marking	Pb ppm	Zn ppm			
L-2 0+00E 0+00N B/L	18	11A ⁰⁴⁷			
0+20N	33	240			
0+40N	15	132			
0+60N	12	195			
0+80N	16	245			
1+00N	42	840			
1+20N	18	198			
1+80N	15	57			
2+00N	29	146			
2+20N	27	143			
2+40N	38	326			
2+60N	16	100			
2+80N	10	37			
3+00N	19	97			
3+20N	24	115			
3+40N	24	145			
3+60N	25	140			
3+80N	29	278			
0+00E4+00N	26	146			
1+00E 0+00N	14	61			
0+20N	13	45			
0+40N	12	76			
0+60N	11	133			
0+80N	37	3190			
0+00N	14	364			
1+40N	95	4000			
1+60N	46	300			
1+80N	13	215			
2+00N	12	68			
2+20N	13	69			
2+40N	12	49			
2+60N	9	42			
2+80N	8	61			
3+00N	18	56			
3+20N	18	65			
3+40N	13	62			
3+60N	3	30			
3+80N	11	36			
L-2 1+00E4+00N	36	129			

MASTER PRINTING LTD.

REMARKS:

7-39

Signed: *[Signature]*

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH
 E & B Explorations Inc.

Report No: 81-39-012 Page 2 of 13
 Samples Arrived:
 Report Completed:
 For Project:
 Analyst:

Attention:

Sample Marking	Pb ppm	Zn ppm			
L-2 2+00E 0+00N B/L	12	76			
0+20N	8	75			
0+40N	8	126			
0+50N	19	890			
0+80N	34	1210			
1+00N	6	150			
1+80N	8	105			
2+00N	5	48			
2+20N	8	33			
2+40N	8	53			
2+60N	16	89			
2+80N	13	71			
3+00N	9	54			
3+40N	9	65			
3+60N	15	69			
3+80N	11	42			
2+00E 4+00N	7	45			
3+00E 0+00N B/L	13	155			
0+20N	5	83			
0+40N	10	184			
0+60N	12	245			
0+80N	10	399			
1+00N	13	341			
1+20N	11	710			
1+60N	16	178			
1+80N	16	270			
2+00N	22	246			
2+20N	16	257			
2+40N	17	243			
2+60N	14	130			
2+80N	15	138			
3+00N	16	81			
3+20N	12	81			
3+40N	20	64			
3+50N	11	65			
3+00E 3+80N	17	99			
4+00E 0+00N B/L	4	49			
0+40N	18	346			
L-2 4+00E 0+60N	15	141			

MASTER PRINTING LTD.

REMARKS:

81-39

Signed:

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Report No: 81-39-012 Page 3 of 13

Samples Arrived:

Report Completed:

For Project:

Analyst:

Attention:

Sample Marking	Pb ppm	Zn ppm			
L-2 4+00E 0+80N	5	244			
1+00N	14	302			
1+20N	25	580			
1+40N	152	1180			
1+60N	470	2050			
1+80N	88	880			
2+00N	203	710			
2+20N	6	105			
2+40N	16	132			
2+60N	12	77			
2+80N	15	68			
3+00N	10	38			
3+20N	10	45			
3+40N	8	35			
3+60N	12	73			
3+80N	18	88			
4+00E 4+00N	7	29			
5+00E 0+00N B/L	9	1210			
0+20N	15	1330			
0+40N	17	790			
0+60N	49	1300			
0+80N	790	2540			
1+00N	34	1270			
1+20N	18	890			
1+40N	12	430			
1+60N	12	1520			
1+80N	10	2270			
2+20N	13	940			
2+40N	12	67			
2+60N	16	52			
3+00N	18	84			
3+20N	20	108			
3+40N	18	120			
3+60N	16	70			
3+80N	14	47			
5+00E 4+00N	9	44			
6+00E 0+00N B/L	32	770			
0+20N	18	3460			
L=2 6+00E 0+40N	144	3730			

MASTER PRINTING LTD.

REMARKS:

4:39

Signed: 

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Attention:

Report No: 81-39-012

Page 4 of 13

Samples Arrived:

Report Completed:

For Project:

Analyst:

Sample Marking	Pb ppm	Zn ppm				
L-2 6+00E 0+60N	75	750				
0+80N	18	480				
1+00N	19	171				
1+20N	22	91				
1+40N	18	139				
1+60N	19	114				
1+80N	12	52				
2+00N	20	89				
2+20N	11	52				
2+40N	18	81				
2+60N	10	46				
2+80N	12	63				
3+00N	17	80				
3+20N	18	82				
3+40N	18	75				
3+60N	11	55				
3+80N	10	61				
6+00E 4+00N	8	34				
7+00E 0+00N B/L	No Sample (Bag Empty)					
0+20N	29	1350				
0+40N	18	1450				
0+60N	21	2850				
0+80N	273	930				
1+00N	45	490				
1+20N	29	420				
1+40N	14	80				
1+60N	19	72				
1+80N	16	42				
2+00N	19	81				
2+20N	11	32				
2+40N	13	56				
2+60N	59	57				
2+80N	33	115				
7+00E 3+00N	21	111				
8+00E 0+00N B/L	23	2370				
0+20N	25	2100				
0+40N	34	600				
0+60N	45	420				
L-2 8+00E 0+80N	26	440				

MASTER PRINTING LTD.

REMARKS:

6139

Signed:

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Report No: 81-39-012

Page 5 of 13

Samples Arrived:

Report Completed:

For Project:

Analyst:

Attention:

Sample Marking	Pb ppm	Zn ppm			
L-2 8+00E 1+00N	13	104			
1+20N	19	213			
1+40N	16	128			
1+60N	18	114			
1+80N	19	81			
2+00N	14	51			
2+20N	19	119			
2+40N	13	93			
2+60N	24	75			
2+80N	17	134			
3+00N	18	94			
3+20N	11	53			
3+40N	17	86			
3+60N	13	108			
3+80N	11	48			
L-2 8+00E 4+00N	15	61			
0+00N 0+00E B/L	14	50			
0+40E	16	66			
0+60E	13	46			
0+80E	18	53			
1+00E	22	76			
1+20E	14	76			
1+40E	8	27			
1+60E	15	56			
1+80E	20	52			
2+00E	18	63			
0+40W	19	87			
0+60W	16	48			
0+80W	19	49			
1+00W	21	48			
1+40W	19	58			
1+60W	14	88			
1+80W	20	24			
0+00N 2+00W	11	42			
1+00N 0+00	9	43			
0+20E	18	127			
0+40E	20	36			
0+60E	14	57			
1+00N 0+80E	19	57			

MASTER PRINTING LTD.

REMARKS:

123 4.89

Signed: _____

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-
 E & B Explorations Inc.

Report No: 81-39-012 Page 6 of 13
 Samples Arrived:
 Report Completed:
 For Project:
 Analyst:

Attention:

Sample Marking	Pb ppm	Zn ppm			
1+00N 1+00E	20	87			
1+20E	19	66			
1+60E	22	65			
2+00E	14	89			
0+20W	18	61			
2+40W	5	33			
0+60W	10	34			
0+80W	8	32			
1+00W	21	63			
1+20W	18	81			
1+40W	18	60			
1+60W	14	72			
1+00N 2+00W	22	89			
2+00N 0+00 B/L	19	111			
0+20E	18	99			
0+30E	20	170			
0+60E	18	85			
1+40E	29	1050			
1+60E	21	860			
1+80E	20	3750			
2+00E	9	86			
2+20W	17	82			
0+40W	14	176			
0+80W	15	59			
1+00W	8	27			
1+20W	12	58			
1+40W	15	69			
1+80W	18	74			
2+00N 2+00W	18	76			
3+00N 0+00 B/L	8	35			
0+20E	16	112			
0+40E	14	81			
0+60E	8	43			
0+80E	18	53			
1+00E	11	64			
1+20E	15	175			
1+40E	18	128			
1+60E	17	92			
3+00N 1+80E	18	74			

MASTER PRINTING LTD.

REMARKS:

E-39

Signed:

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Attention:

Report No: 81-39-012

Page 7 of 13

Samples Arrived:

Report Completed:

For Project:

Analyst:

Sample Marking	Pb ppm	Zn ppm				
3+00N 2+00E	16	123				
0+40W	23	40				
0+80W	15	77				
1+00W	18	62				
1+15W	11	43				
1+80W	27	104				
3+00N 2+00W	19	105				
4+00N 0+00 B/L	11	41				
0+40E	40	147				
0+60E	10	76				
0+80E	9	50				
1+00E	11	53				
1+20E	10	100				
1+40E	17	136				
1+60E	19	81				
1+80E	21	116				
2+00E	24	80				
0+20W	11	39				
0+40W	13	36				
0+60W	12	46				
0+80W	14	48				
1+00W	13	50				
1+20W	15	68				
1+40W	19	73				
1+60W	16	48				
1+80W	19	76				
4+00N 2+00W	18	97				
5+00N 0+00 B/L	11	36				
0+40E	17	46				
0+60E	10	52				
0+80E	14	50				
1+00E	12	55				
1+20E	16	139				
1+40E	15	113				
1+60E	30	1650				
1+80E	760	4020				
2+00E	16	85				
0+20W	9	33				
5+00N 0+40W	12	66				

MASTER PRINTING LTD.

REMARKS:

6:39

Signed: _____

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E. & B Explorations Inc.

Attention:

Report No: 81-39-012

Page 8 of 13

Samples Arrived:

Report Completed:

For Project:

Analyst:

Sample Marking	Pb ppm	Zn ppm				
5+00N 0+60W	16	60				
0+80W	18	80				
1+25W	11	42				
1+40W	15	44				
1+80W	18	59				
5+00N 2+00W	9	44				
6+00N 0+20E	11	51				
0+40E	10	60				
0+60E	11	35				
0+80E	15	52				
1+00E	13	57				
1+20E	11	71				
1+80E	22	361				
2+00E	12	69				
0+20W	19	73				
0+40W	16	82				
0+60W	13	67				
1+00W	20	117				
1+20W	18	129				
1+40W	20	102				
1+60W	16	134				
1+80W	12	74				
2+00W	18	158				
7+00N 0+00 B/L	19	115				
0+60E	18	51				
0+80E	14	53				
1+00E	12	53				
1+20E	25	76				
1+40E	25	99				
1+80E	17	88				
2+00E	9	60				
0+20W	12	93				
1+00W	14	54				
1+20W	14	92				
1+40W	22	59				
1+60W	20	90				
1+80W	28	189				
7+00N 2+00W	22	85				
8+00N 0+00 B/L	16	72				

MASTER PRINTING LTD.

REMARKS:

81-39

Signed:

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Report No: 81-39-012 Page 9 of 13
 Samples Arrived:
 Report Completed:
 For Project:
 Analyst:

Attention:

Sample Marking	Pb ppm	Zn ppm				
8+00N 0+20E	14	78				
0+40E	16	171				
1+00E	18	96				
1+20E	23	156				
1+50E	16	106				
2+00E	15	53				
0+20W	17	84				
0+60W	13	66				
1+00W	16	68				
1+80W	14	68				
8+00N 2+00W	14	60				
9+00N 0+00 B/L	20	150				
0+20E	18	136				
0+40E	17	84				
0+60E	19	81				
1+20E	12	57				
1+60E	28	90				
1+80E	20	51				
2+00E	14	118				
0+20W	14	54				
0+60W	12	66				
0+80W	18	62				
1+00W	20	88				
1+20W	26	214				
1+40W	30	146				
1+60W	19	194				
1+80W	20	196				
9+00N 2+00W	16	93				
10+00N 0+00 B/L	11	53				
0+20E	14	95				
0+40E	20	101				
0+60E	20	69				
1+80E	16	89				
2+00E	31	239				
0+20W	25	95				
0+40W	16	82				
0+60W	20	48				
0+80W	15	108				
10+00N 1+00W	15	80				

MASTER PRINTING LTD.

REMARKS:

E-39

Signed:

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-
 E & B Explorations Inc.

Report No: 81-39-012 Page 10 of 13
 Samples Arrived:
 Report Completed:
 For Project:
 Analyst:

Attention:

Sample Marking	Pb ppm	Zn ppm			
10+00N 1+20W	18	96			
1+40W	17	83			
1+60W	21	181			
1+80W	25	92			
10+00N 2+00W	18	70			
11+00N 0+00E B/L	13	41			
0+40E	15	55			
0+60E	14	31			
0+80E	14	81			
1+00E	16	40			
1+40E	11	59			
1+60E	12	42			
1+80E	14	39			
2+00E	23	155			
0+20W	20	127			
0+40W	15	72			
0+60W	14	49			
0+80W	16	57			
1+00W	17	100			
1+20W	21	99			
1+40W	14	71			
1+60W	43	156			
1+80W	51	179			
11+00N 2+00W	42	100			
12+00N 0+40E	36	95			
0+60E	16	94			
0+80E	44	183			
1+20E	11	58			
1+40E	16	80			
1+60E	15	87			
1+80E	18	126			
2+00E	20	151			
0+20W	15	52			
0+40W	6	19			
0+60W	10	38			
0+80W	16	88			
1+00W	14	69			
1+20W	8	28			
12+00N 1+40W	9	69			

MASTER PRINTING LTD.

REMARKS:

81-39

Signed:

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Attention:

Report No: 81-39-012

Page 11 of 13

Samples Arrived:

Report Completed:

For Project:

Analyst:

Sample Marking	Pb ppm	Zn ppm				
12+00N 1+60W	16	104				
1+80W	15	76				
12+00N 2+00W	31	101				
13+00N 0+20E	38	127				
0+40E	23	137				
1+00E	9	128				
1+20E	45	570				
1+40E	16	168				
2+00E	19	122				
0+40W	15	49				
0+80W	9	53				
1+20W	8	39				
1+40W	15	120				
1+60W	15	56				
1+80W	34	175				
13+00N 2+00W	20	108				
14+00N 0+00 B/L	20	91				
0+20E	19	106				
0+40E	14	49				
0+80E	18	140				
1+05E	14	93				
1+20E	16	82				
1+60E	23	313				
1+80E	21	141				
2+00E	26	197				
0+40W	18	60				
0+60W	12	48				
0+80W	12	38				
1+00W	11	58				
1+20W	15	85				
* 1+40W	31	169	*			
1+20W	8	50				
14+00N 2+00W	10	51				
15+00N 1+00E	8	44				
1+20E	12	128				
1+40E	6	67				
1+60E	6	52				
1+80E	10	139				
15+00N 2+10E	29	334				

REMARKS:

8-39

Signed:

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

MASTER PRINTING LTD



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Attention:

Report No: 81-39-012

Page 12 of 13

Samples Arrived:

Report Completed:

For Project:

Analyst:

Sample Marking	Pb ppm	Zn ppm				
15+00N 0+40W	14	82				
0+60W	12	50				
1+00W	23	126				
1+20W	16	180				
1+40W	52	385				
1+60W	26	380				
1+80W	16	149				
15+00N 2+00W	8	38				
16+00N 0+00 B/L	8	50				
0+40E	12	100				
0+80E	6	114				
1+40E	7	60				
1+60E	12	83				
1+70E	8	45				
2+00E	11	59				
0+20W	10	48				
0+40W	13	71				
0+60W	12	68				
0+80W	6	62				
1+00W	18	133				
1+20W	14	96				
1+40W	11	71				
1+60W	22	93				
1+80W	20	75				
16+00N 2+00W	18	96				
17+00N 0+20E	13	47				
0+40E	13	90				
0+60E	17	38				
0+80E	15	123				
1+40E	9	69				
1+60E	9	125				
1+80E	17	100				
2+00E	8	56				
0+20W	12	172				
0+40W	19	220				
0+60W	15	94				
0+80W	21	199				
1+00W	11	66				
17+00N 1+20W	34	600				

MASTER PRINTING LTD.

REMARKS:

1039

Signed: _____

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Attention:

Report No: 81-39-012

Page 13 of 13

Samples Arrived:

Report Completed:

For Project:

Analyst:

Sample Marking	Pb ppm	Zn ppm				
17+00N 1+40W	22	126				
1+60W	13	125				
1+80W	20	103				
17+00N 2+00W	13	90				

MASTER PRINTING LTD.

REMARKS:

624

Signed:

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANCOUVER LEAD LTD.
 1521 PEMBERTON AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7P 2S3

TELEPHONE: 986-5211
 AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

IN ACCOUNT WITH
 E & B Explorations Inc.
 #1440 - 800 W. Pender St.
 Vancouver, B. C. V6C 2V6
 Attention:

Report No: 81 39 014 Page 1 of 3
 Samples Arrived: August 11, 1981
 Report Completed: August 26, 1981
 For Project: Lodge Extension
 Analyst: E.T. & VGC Staff
 Invoice #6424 Job #81 - 251

Sample Marking	Pb ppm	Zn ppm			
BL9+00E 0+00N	32	790			
9+00E 0+20	18	660			
+40	28	3100			
+60	13	210			
+80	no sample in bag				
1+00	28	185			
+20	19	201			
+40	21	134			
+60	14	178			
+80	13	103			
2+00	21	125			
+20	14	89			
+40	25	140			
+60	21	167			
+80	22	150			
3+00	31	140			
+20	10	90			
+40	19	149			
+60	16	130			
+80	25	143			
9+00E 4+00N	22	141			
BL10+00E 0+00N	no sample in bag				
10+00E 0+20	42	2720			
+40	8	215			
+60	10	185			
+80	16	217			
1+00	19	200			
+20	18	256			
+40	9	134			
+60	14	352			
+80	no sample in bag				
2+00	no sample in bag				
+20	21	294			
+40	12	66			
+60	26	119			
+80	27	127			
3+00	24	124			
+20	13	89			
10+00E 3+40N,	18,	83,			

REMARKS:

Signed:

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

MASTER PRINTING LTD.



1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

- IN ACCOUNT WITH -

E & B Explorations Inc.

Report No: 81 39 014 Page 2 of 3

Samples Arrived:

Report Completed:

For Project:

Analyst:

Attention:

Sample Marking	Pb ppm	Zn ppm			
10+00E 3+60N	18	96			
+80	19	121			
10+00E 4+00N	15	92			
BL11+00E 0+00N	22	137			
11+00E 0+20	24	221			
+40	21	225			
+60	12	101			
+80	19	1010			
1+00	33	1510			
+20	21	1350			
+40	14	186			
+60	no sample in bag				
+80	18	136			
2+00	17	174			
+20	24	124			
+40	21	77			
+60	15	105			
+80	16	90			
3+00	7	38			
+20	5	62			
+40	8	70			
+60	10	26			
+80	10	85			
11+00E 4+00N	7	41			
BL12+00E 0+00N	21	283			
12+00E 0+20	21	290			
+40	23	200			
+60	23	321			
+80	17	1610			
1+00	43	1740			
+20	45	2180			
+40	22	980			
+60	25	790			
+80	36	890			
2+00	24	169			
+20	17	165			
+40	15	106			
+60	12	72			
12+00E 2+80N,	18,	84,			

MASTER PRINTING LTD.

REMARKS:

Signed:

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per mill

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

E & B Explorations Inc.

Report No: 81 39 014

Page 3 of 3

Samples Arrived:

Report Completed:

For Project:

Analyst:

Attention:

Sample Marking	Pb ppm	Zn ppm			
12+00E 3+00N	23	111			
+20	14	104			
+40	15	117			
+60	6	51			
+80	19	113			
12+00E 4+00N	18	103			
L6+00 0+20S	20	184			
+40	16	267			
+60	14	196			
+80	19	283			
L6+00 1+00S	16	139			
L7+00 0+20S	16	253			
+40	11	201			
+60	12	168			
+80	43	368			
L7+00 1+00S	20	246			
L8+00 0+20S	10	171			
+40	14	56			
+60	21	127			
+80	17	153			
L8+00 1+00S	13	76			
L9+00 0+20S	12	163			
+40	10	170			
+60	14	181			
+80	17	353			
L9+00 1+00S	12	163			
L6+00 0+20S	30	1670			
+40	27	360			
+60	19	203			
+80	27	990			
L6+00 1+00S	13	139			
L7+00 0+20S	14	1160			
+40	16	256			
+60	11	143			
+80	19	68			
L7+00 1+00S	22	177			
L8+00 0+20S	20	376			
L8+00 0+40S	24	117			
L12+00 1+00S	23,	204,			

MASTER PRINTING LTD.

REMARKS:

Signed:

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

STATEMENT OF COSTS

WAGES

G. Crooker, Geologist		
July 2-15; 14 days @ \$150/day	\$2,100	
July 25-Aug.6; 13 days @ \$150/day	<u>1,950</u>	\$ 4,050
W. G. Sisson, Geology Student		
June 17-30; 10 days @ \$60/day	600	
July 2-31; 28 days @ \$60/day	<u>1,680</u>	2,280
K. Chromka; Cook/field assist.		
July 2-31; 28 days @ \$60/day	1,680	
Aug. 1-7; 7 days @ \$60/day	<u>420</u>	2,100
J. B. Richardson; Field assist.		
July 2-26; 24 days @ \$30/day	720	720
J. Richardson; Consulting Geol.		
July 2-Aug.7(field)-36 days @ \$300/day	10,800	
June 6-30; (field)-5 days @ \$300/day	1,500	
June 6-30; (office) -12 days @ \$250/day	3,000	
Aug.8-Oct. 6 (office)-18 days @ \$250/day	<u>4,500</u>	
	<u>19,800</u>	
		\$28,950
WORKERS COMPENSATION		220
CAMP EQUIPMENT (Deakin)		2,807
CAMP CONSTRUCTION (Bruneau Bros.)		5,500
CAMP SUPPLIES (Miscellaneous)		600
TRUCK RENTAL - Rentway; 2 mos. @ \$700/mo.		1,400
Grant Crooker; 1 mo. @ \$400/mo.		400
M. Cusick;.5 mos. @ \$400/mo.		200
Fuel & maintenance; 110 man days @ \$15/day		410
FOOD SUPPLIES (Overwaitea)		1,650
ACCOMMODATION (motel and meals)		350
ROAD AND SITE PREPARATION		790
MAGNETOMETER RENTAL; 1 month @ \$500/mo.		500
GEOCHEMICAL ANALYSES:		
471 soil samples @ \$3/sample		1,413

CONTRACT SOIL SAMPLING & LINE CUTTING (Hi-Tec)	4,500
lines - 14 km	
samples - 420	
cost per line Km (line cutting & sampling)	350
STATIONERY, MAP PRINTING, AIRPHOTOS	600
DRAFTING AND REPORT PREPARATION	350
	<u>\$50,648</u>

(J. Richardson)

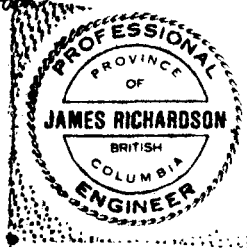
I graduated in Geology from the University of Toronto in 1940 and worked continuously for Cominco Limited as a Mine and Exploration Geologist until 1980, throughout North America, in Australia, Central and South America and Europe. During this period, I gained extensive experience in all types of mineral environments and exploration methods.

I was present as project manager on the Ledge Extension property throughout the entire period of field work, from 2 July to 7 August. In addition, I previously did exploratory work in the immediate area for 4 seasons over a period of 14 years.

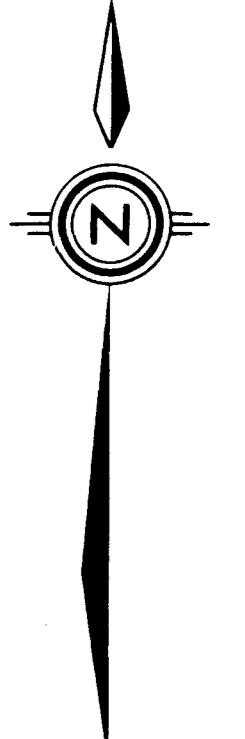
Since retiring from Cominco in 1980, I have established a private mineral exploration consulting practice in Vancouver.

I am a Fellow of the Geological Association of Canada, a senior member of the Canadian Institute of Mining and Metallurgy and a member of the Association of Professional Engineers of British Columbia.

James Richardson
James Richardson,
P. Eng.
Sept. 28, 1981



JR/mf



LAKE
ARROW
UPPER

Min Water Level
1378'

LEGEND

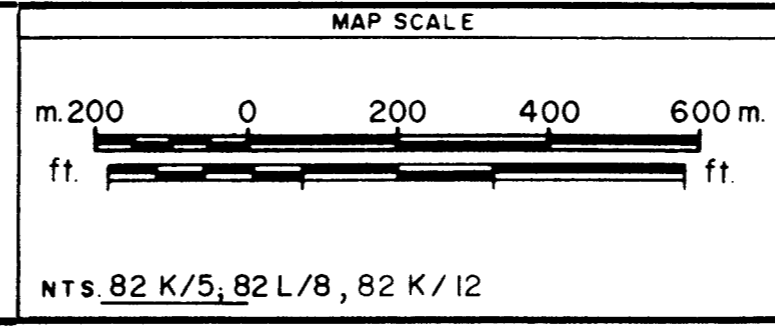
- 1 Leucogranite
- 2 Ledge Member
- 3 Marble Members
- 4 Quartzite Members
- 5 Hanging Wall Schists and Gneisses
- 6 Footwall Schists and Gneisses

SYMBOLS

- Geological Contact; defined, assumed
- Claim Boundary; location assumed, crown granted
- Esperanza property boundary
- Logging roads
- Drill Hole; Cominco, 1952
- Northwest Zinc, 1966-67
- Minor outcrop

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9651

To accompany Exploration Report on
LEDGE EXTENSION PROPERTY,
Slocan M.D. NTS 82K/5, 82L/8, 82K/10
By J. Richardson, P. Eng
Dated October, 1981.

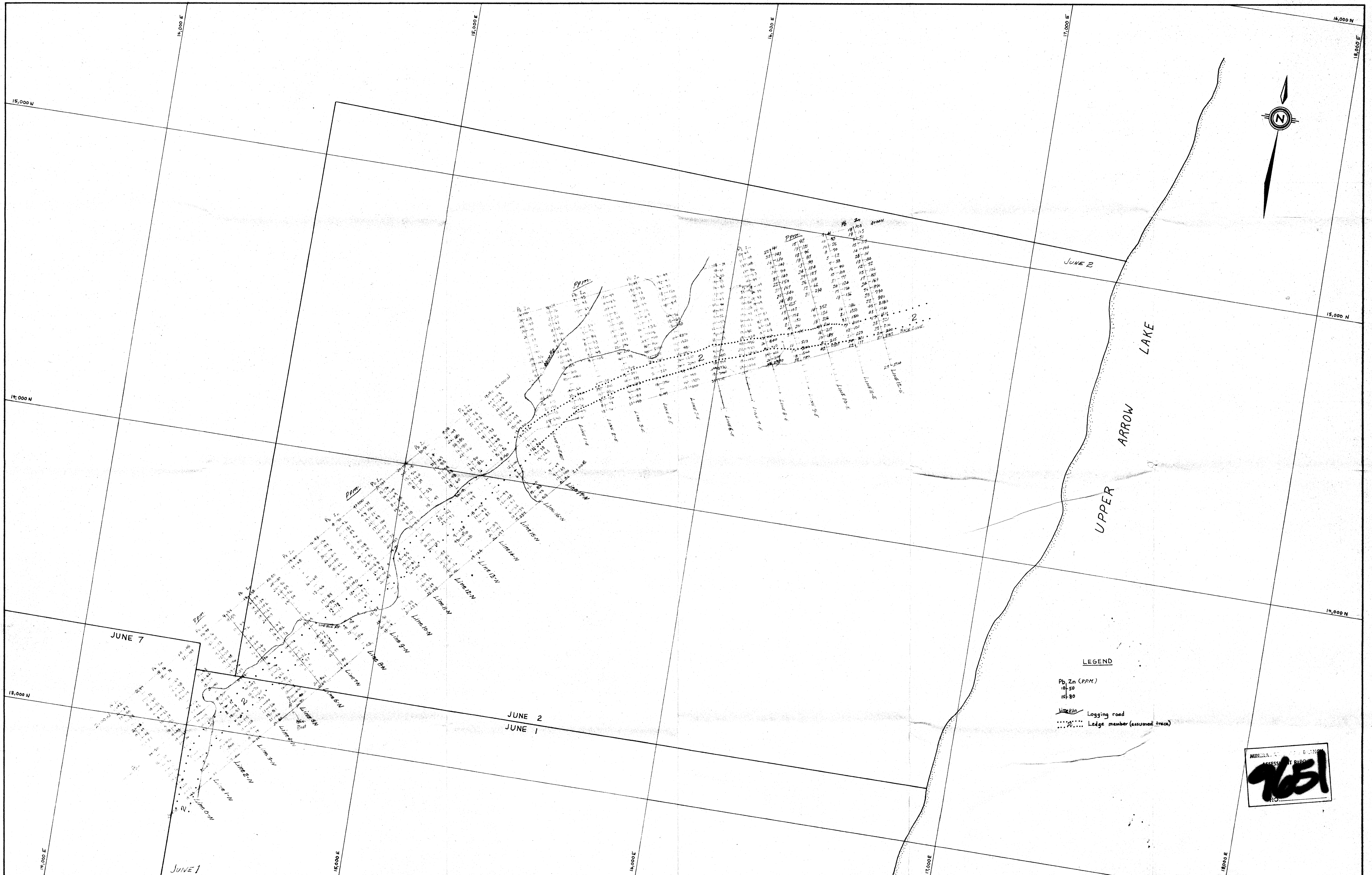


REVISED	No.	Date	MADE BY	DESCRIPTION
1				
2				
3				
4				

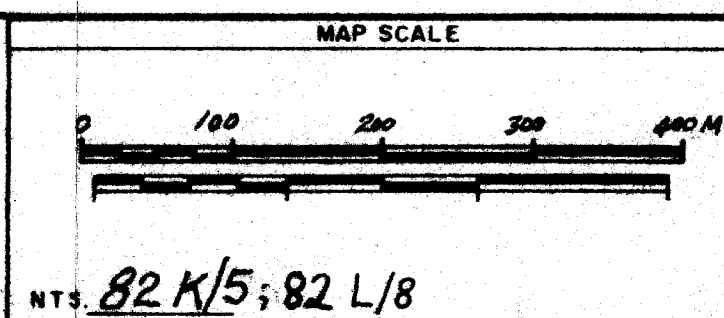
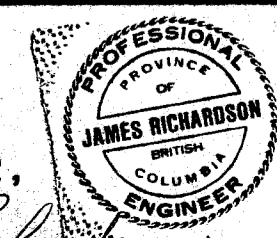
E & B Explorations Inc.

LEDGE EXTENSION
SLOCAN M.D., B.C.
GEOLOGY

DATE	DRAWN BY	CHECKED	APPROVED	OFFICE	DEPARTMENT	MAP INDEX NUMBER	SCALE	DRAWING NUMBER
25/9/81	J.R.			VANCOUVER, B.C.			1:10,000	L.E.3



To accompany Exploration Report on
 LEDGE EXTENSION PROPERTY,
 Slocan M.D. N.T.S. 82K/5, 82L/8, 82K/12.
 By J. Richardson, P. Eng.
 Dated: October, 1981



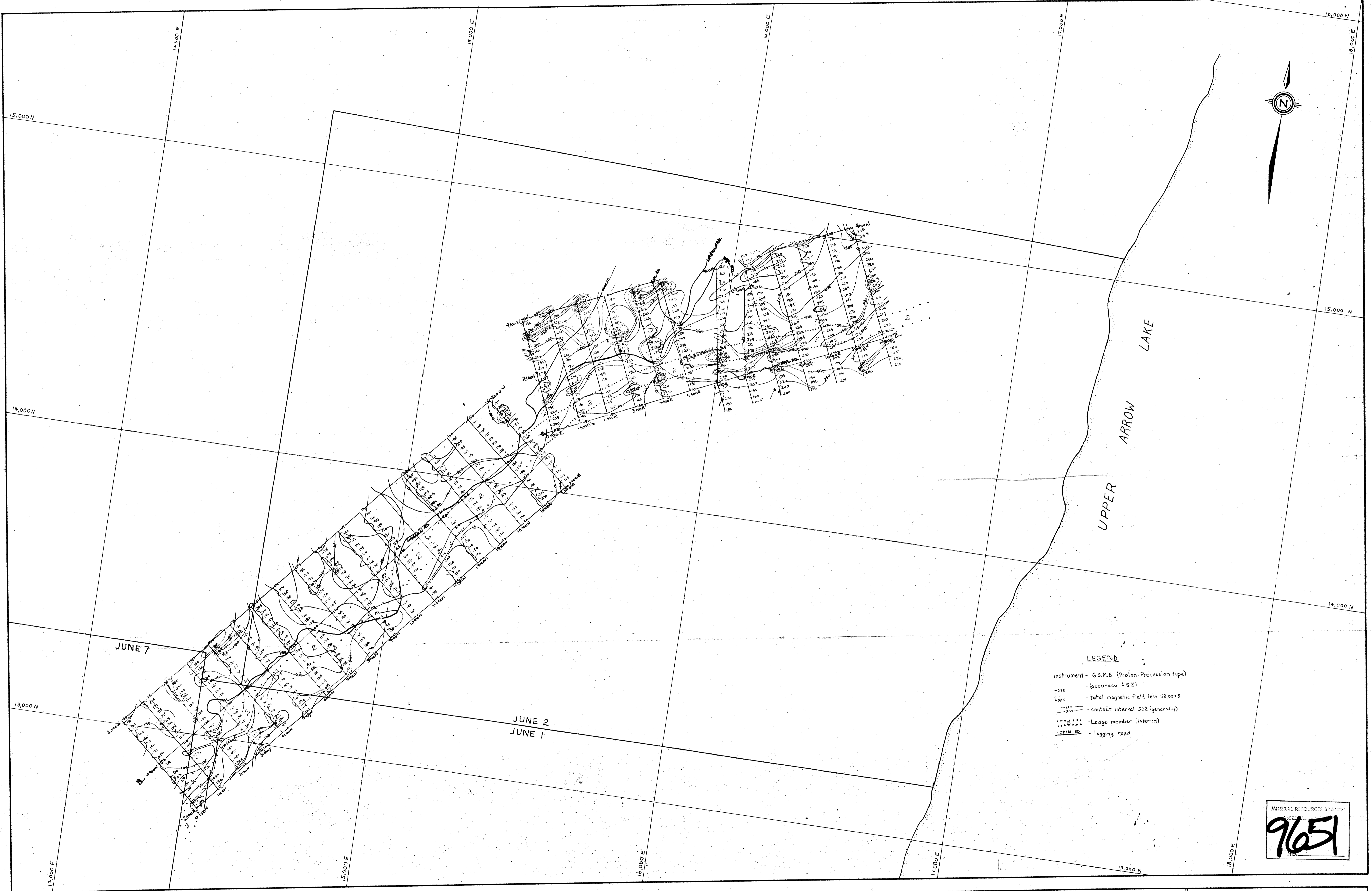
NO.	DATE	MADE BY	DESCRIPTION
1			
2			
3			
4			

DATE	DRAWN BY	CHECKED	APPROVED
2/9/81	W.G.S.		J.R.

E & B E & B Explorations Inc.
 OFFICE: VANCOUVER, B.C.
 DEPARTMENT:

LEDGE EXTENSION
 SLOCAN M.D.
GEOCHEMICAL SURVEY

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1:5,000	L.E. 5



LEGEND

- Instrument - G.S.M.B (Proton Precession type)
- (accuracy ± 5%)
- 275 - total magnetic field less 58,000 G
- 520 - contour interval 50 G (generally)
- - Ledge member (inferred)
- - logging road

MINERAL RESOURCES BRANCH
 9651

<p>To accompany Exploration Report on: LEDGE EXTENSION PROPERTY, Slocan M.D. N.T.S. 82K/5; 82L/8; 82K/12 By J. Richardson, P.Eng. Dated: October, 1981</p>		<p>MAP SCALE</p>	<p>NTS 82K/5; 82L/8</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>MADE BY</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> </tr> </table>	NO.	DATE	MADE BY	DESCRIPTION	1				2				3				4				5				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>DATE</th> <th>DRAWN BY</th> <th>CHECKED</th> <th>APPROVED</th> </tr> <tr> <td>17/9/81</td> <td>W.G.S.</td> <td></td> <td>J.R.</td> </tr> </table>	DATE	DRAWN BY	CHECKED	APPROVED	17/9/81	W.G.S.		J.R.	<p>E & B Explorations Inc.</p>	<p>LEDGE EXTENSION SLOCAN M.D. MAGNETOMETER SURVEY</p>
		NO.	DATE	MADE BY	DESCRIPTION																																		
1																																							
2																																							
3																																							
4																																							
5																																							
DATE	DRAWN BY	CHECKED	APPROVED																																				
17/9/81	W.G.S.		J.R.																																				
		<p>OFFICE: VANCOUVER, B.C.</p>			<p>DEPARTMENT:</p>	<p>MAP INDEX NUMBER:</p>	<p>SCALE: 1:5,000</p>	<p>DRAWING NUMBER: L.E.4</p>																															