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Geochemical and Geophysical Report

on the

LG -1 Mineral Claim

Kamloops Mining Division

British Columbia

N.T.S. 82 L 14E

Latitude 50° 48' North

Longitude 119° 03' West

Covering the LG-1 Claim (12 units)

located near Sicamous, B. C.

FILMED

Work performed between March 1989 - January 15, 1990

Owners:

D. A. Leishman and W. Gruenwald

by

Douglas A. Leishman, B. Sc.

Consulting Geologist

Kamloops, B. C.

February 22, 1990

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

19,824

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Summary

The LG-1 mineral claim (known as the Annis property) was first explored and developed in the late 1950's through to the late 70's. Initially, massive lead-zinc sulphide mineralization with silver values was located along a shear/vein system (Adit Zone). Grades of 13% lead, 4% zinc and up to 4 ounces silver across widths to 11 feet were recorded from surface trenches. A second parallel zone (Conductor B) of significantly greater strike dimensions was also located.

Recent work completed on the LG-1 mineral claim has succeeded in further delineating a strong VLF-EM and magnetic anomaly (Conductor B) due to massive sulphide mineralization. This conductor has a strike length of greater than 700 metres and has been only partially drill tested. Grades up to 18% combined lead-zinc with up to 5 ounces silver have been recorded over short (0.7 metre) intervals in some of the previous drilling. Recently discovered surface exposures of massive sulphides indicate this sulphide conductor might have a metal zonation which may result in grades of greater economic potential being located within areas previously untested by drilling.

At least one other target area has been partially delineated by geophysical and geochemical surveys (Conductor C). A number of other geophysical responses indicate other targets might be developed within the LG-1 mineral claim.

The target on the LG-1 mineral claim is a **"SEDEX" type, strata controlled, massive sulphide ore body**. A target size in the range of 1/2 to one million tonnes with a grade of **15% combined lead-zinc with 5-10 ounces silver** is a reasonable expectation based on known mineralization.

The following report outlines the most recent and historical exploration programs completed on the LG- 1 mineral claim. A success contingent program of exploration and development with a budget of \$181,950. is proposed for the LG-1 claim.

Introduction

This report outlines the results of recent geochemical and geophysical surveys completed on the LG-1 mineral claim from March through to December 1989. The work described in this report was completed by the owner/operators (Leishman and Gruenwald) with field assistance from J. Belik.

In addition to completed field work, drill hole information from two previous drilling programs has been obtained. All pertinent drilling information has been utilized to develop an exploration strategy for the LG-1 mineral claim.

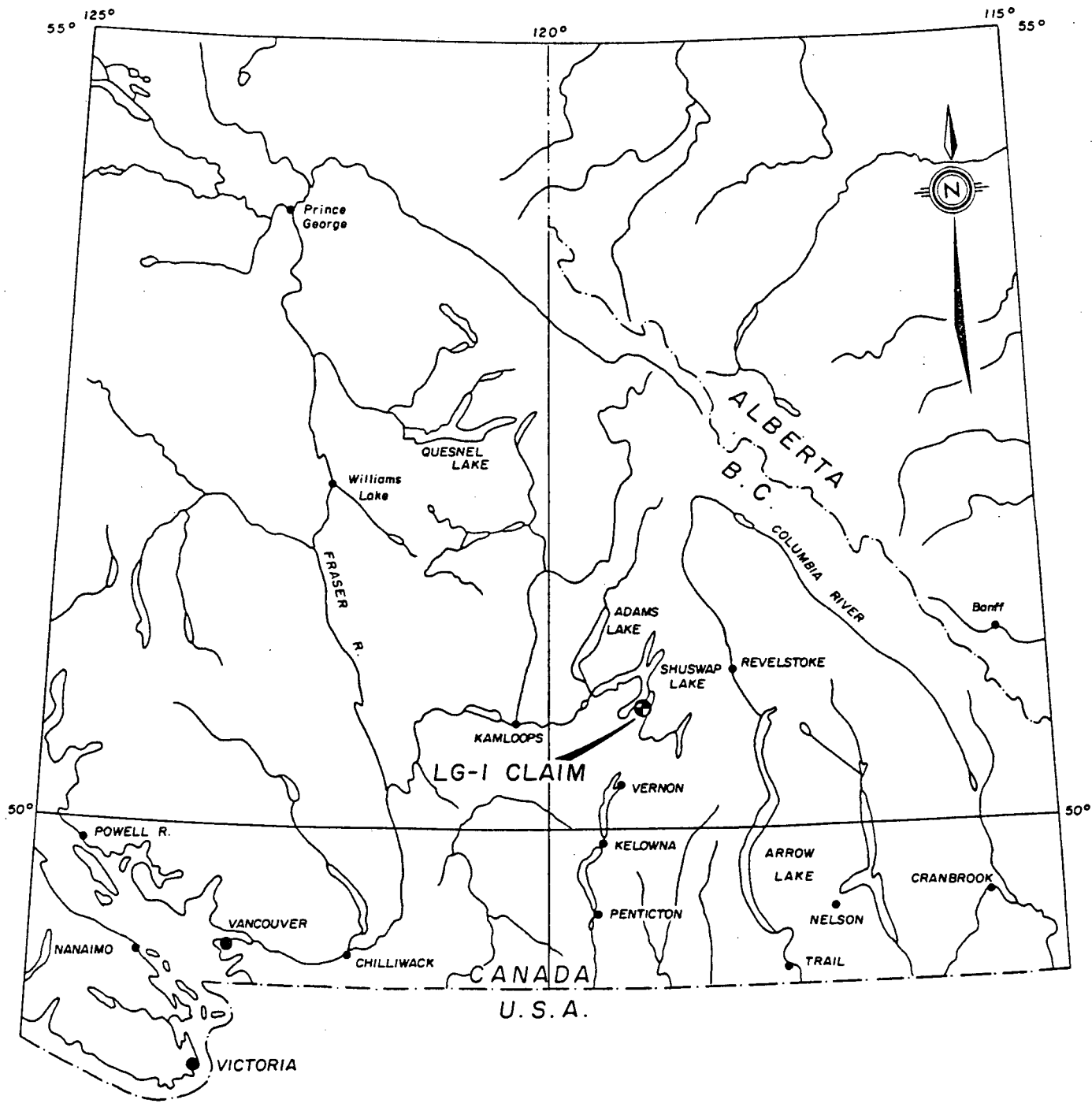
A phased, program of further exploration and development of the LG-1 mineral claim has been proposed with a budget of \$181,950.

A series of maps showing property and claim location as well as recent survey data are included with this report. The cost of the recent work on the LG-1 claim approximately \$4,800.00. Some analytical costs have been paid by Placer Dome Inc. for a first right of refusal on the property.

Location, Access and Physiography

The LG-1 mineral claim is located in south central British Columbia within the Kamloops Mining Division. The claim is situated approximately 8 kilometres southwest of the town of Sicamous on the east side of the Trans Canada Highway (Figures 1 and 2). Geographic co-ordinates of the centre of the claim are 50° 48' North Latitude and 119° 03' West Longitude. The property is located on N.T.S. Map No. 82L/14E.

Access to the property is via a short gravel road that leaves the highway approximately 7.5 kilometres southwest of the town of Sicamous, B. C. This road is followed for 3 kilometres to the southeast where it leads to the centre of the claim block (Figure 2). Recent logging activity within the area of the claim block allows for access most of the year.



LOCATION MAP
 LG-1 CLAIM

KAMLOOPS MINING DIVISION, B. C.

Technical Work By: D. Lishman B.Sc. W. Gruenwald B.Sc. Scale: 1:2,500,000 (1cm = 25km)

Date: Jan., 1987. Drawn By: W. G. Fig. No. 1

The property lies on a ridge between the Salmon Arm of Shuswap Lake and Mara Lake. The central portion of the claim block straddles the relatively flat ridge top, while the northwest and southeast corners of the claim slope steeply to the northwest and southeast respectively. The total relief within the area of the claims is approximately 340 metres, ranging from 610 metres a.s.l. in the northwest corner to 950 metres a.s.l. along the south central portion of the claim group. The known mineral occurrences are located near the 850 metre elevation in the west central portion of the claim group.

Rock exposure is limited, with the exception of sections along the road cuts and small knolls along the ridge tops. Overburden cover appears to be minimal (less than 5 metres), as indicated by previous trenching.

The property is covered by moderately thick stands of cedar, fir, hemlock and pine with minimal undergrowth. Recent logging activity has resulted in the clearing of large areas of the claim group. New roads have been the result of this recent logging. Freshly exposed rock faces along these new roads warrant examination.

Property

The LG-I mineral claim consists of 12 units and covers an area of approximately 300 hectares. All claim posts have been placed and claim lines are well marked.

Claim Name	Units	Record No.	Expiry Date
LG-I	12	6487	January 15, 1992

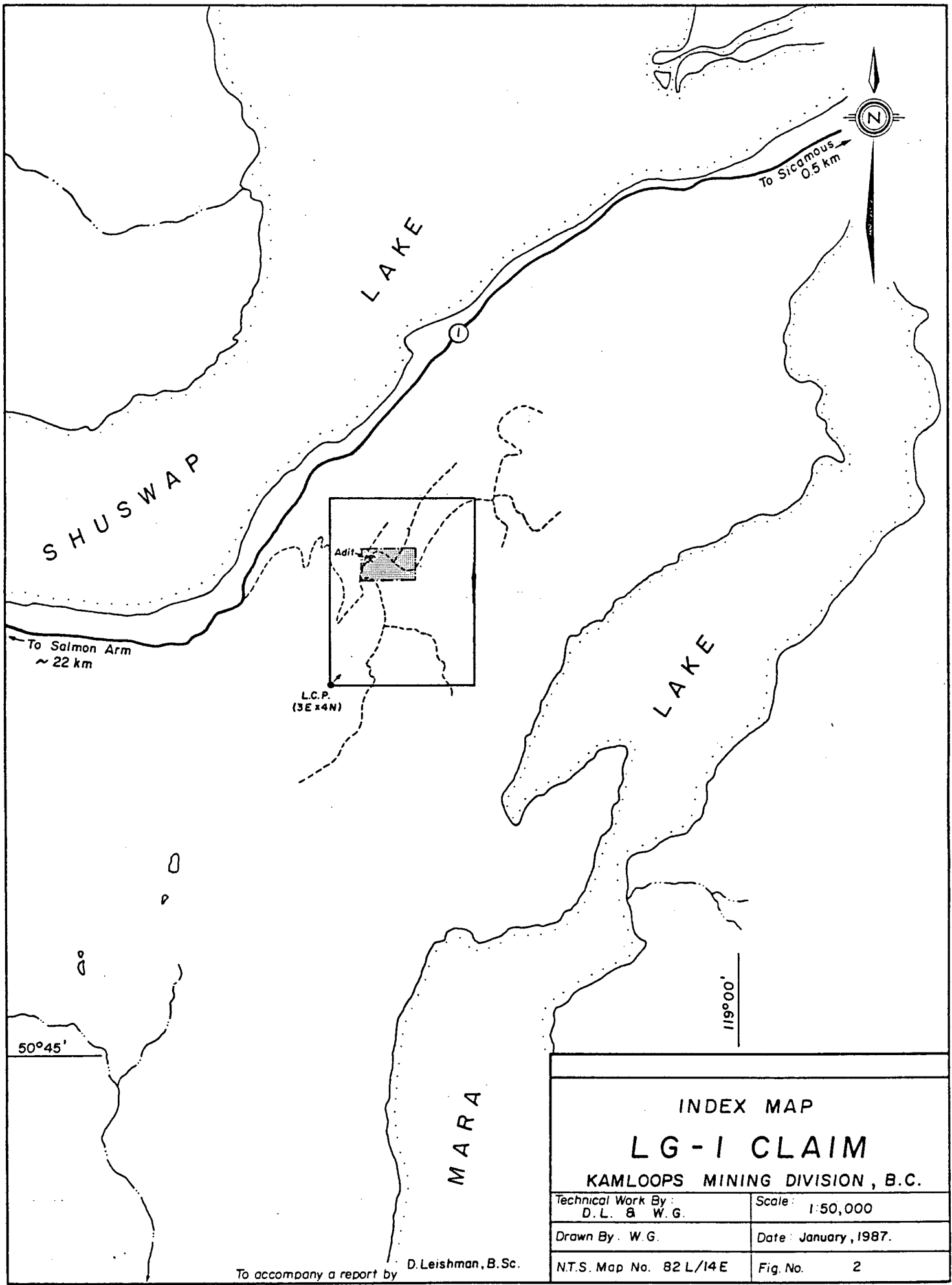
The owners of the claim are Douglas A. Leishman (Kamloops) and Werner Gruenwald of Vernon, British Columbia.

History

The area covered by the LG-I mineral claim has undergone intermittent periods of work since 1958. In 1958 an 85 foot adit was driven to intersect the downdip extensions of previously discovered surface showings of massive sulphide (lead-zinc) mineralization. In 1964, as documented in the M.M.A.R., Annis Mines Ltd. trenched the property in the area of lead-zinc-copper mineralization (surficial expressions of the mineralization developed underground). In 1965 the same company extended the adit to 125 feet. Trenching and prospecting was also continued. By 1966 the adit was extended to 160 feet and 5 short holes (shown as A-1 to A-5 on Figure 5) were drilled by the company. Mineralization was reported in all 5 holes however no logs or assay values are available.

It was reported in 1967 that further trenching had extended the strike of known mineralization to 1,200 feet. In addition at least 9 more holes were drilled. Drill hole collars for all 14 drill holes are shown on Figure 5 (labelled A-1 to A-14). It has not been possible to obtain assay data for these drill holes nor have any collars been definitively located in the field. Old maps and sketches from the work by Annis Mines Ltd. (authored by Sherwin Kelly) indicate these drill holes were drilled along the projected strike extension of the Adit Zone (shown as Conductor A on Figure 5). The same plan data indicates assays varying from 1.1% to 13% lead, trace to 4.3% zinc and trace to 4.2 ounces per ton silver were obtained from a number of trenches located along the easterly extension of the Adit Zone. These values were reported over widths from 2 to 11 feet.

Further trenching was also completed by Annis Mines Ltd. during this period on an area south of the Adit Zone. The approximate locations of this trenching is shown on Figure 5 and corresponds to the westerly extension of Conductor B. Table I below lists individual values obtained from the four areas shown on Figure 5. These assay values were taken from plan maps prepared by Kelly.



INDEX MAP LG-1 CLAIM KAMLOOPS MINING DIVISION, B.C.	
Technical Work By: D.L. & W.G.	Scale: 1:50,000
Drawn By: W.G.	Date: January, 1987.
N.T.S. Map No. 82 L/14 E	Fig. No. 2

To accompany a report by D. Leishman, B.Sc.

Area	Lead %	Zinc%	Silver oz./ton
1	13.9	2.75	4.8
2	1.27-2.85	1.8-2.9	0.5-0.8
3	3.6	1.83	2.5
4	1.15-1.75	0.42 -0.80	0.1- 0.65

Assays for Various areas of Trenching 1966

Table I

As shown in the above table, assays of up to 17% combined lead-zinc with up to 4.8 oz./ton silver were obtained however no widths were stated. These samples were taken from trenches near what the present operators have designated as Conductor B. There is no evidence that Annis Mines Ltd. completed any drilling in this area.

There is no documentation of further work completed on the property until 1973 when Sicamous Resources Ltd. completed some grid work. This was followed up in 1976 by the same company by a geochemical soil survey which outlined a large zinc anomaly. Based on this and known mineralization the property was then optioned to Granges Exploration. In 1977 Glen White Geophysical Consulting Services Ltd. carried out a pulse type E.M. survey.

In 1978 Maverick Mountain Mines and Granges Exploration completed a geochemical soil survey which was followed by the diamond drilling of 13 shallow holes (1794 feet drilled). Of this drilling 9 drill holes (6 collar locations) were completed on Conductor B with the remaining 4 holes (3 locations) on the Adit Zone (Conductor A).

Field work completed by Gruenwald and Leishman succeeded in locating 3 drill hole collars (drill holes G78-8, G78-9, G78-10). Using other plan maps from work completed in 1978 the remaining drill hole collars were plotted (see Figure 5). The locations plotted on Figure 5 of drill hole collars on Conductor B are believed to be reasonably reliable however collar locations for Conductor A (Adit Zone) are approximate only.

The logs for this drilling were not completed in any detail and neither was all mineralization sampled. There is an added problem of missing assay data for drill hole G78-8 and G78-11. The table below lists the drill holes completed by Granges/Maverick Mountain on Conductor B. Location co-ordinates are from the 1978 grid. Length of holes is in feet.

Hole No.	Location	Dip	Azimuth	Length	Summary
G78-7	1+17S 4+30E	50°	S50°W	387'	No Samples, several references to visible gal,sph,cpy below 300'.
G78-8	0+10N 2+30E	45°	S60°W	94'	Sample No. 27173-27174, no assays. references to massive sulphides (Po with sph, gal, cpy) 49 to 54'.
G78-9	2+30N 0+24E	55°	S60°W	91'	No Samples. References to massive po with gal, sph, and cpy from 36 to 73'.
G78-2	2+22N 0+10E	55°	S60W	189.9'	Sample No. 27163 (5' 1%Pb-Zn, .4 oz.Ag) sample of massive sulphides.
G78-3	2+22N 0+10E	75°	S60°W	160.6'	Samples 27164-65 (up to 10.4% Pb-Zn, 5.12 oz.Ag/1.7'). Numerous references to cpy and sph (unsampled).
G78-10	2+57N 0+10E	45°	S60°W	89.6'	No Samples, references to 10% py/po.
G78-11	2+70N 20W	45°	S60°W	67'	Sample No. 27175-27179, no assays. References to massive po with gal, sph and cpy from 49 to 60'.
G78-12	2+70N 20W	70°	S60°W	66.3'	Sample No. 27180-27185. Up to 18.85% Pb-Zn, 5.75 oz.Ag/2.2'. Sulphides from 53 to 66'.
G78-13	2+70N 20W	90°		89'	Sample No. 27186-27189 of mineralization from 70 to 82'. Up to 2.25%Pb-Zn, 1 oz.Ag.

Total Footage 1,234.4' (376.2 metres).

1978 Drilling Summary Conductor B

Table II

No further work was recorded on the property until it was acquired by Caltex Hydrocarbons Inc. in 1981.

The work completed by Caltex Hydrocarbons Inc. in 1981 and 1982 included a magnetic and soil sampling survey over areas of the E.M. response previously indicated by White's survey. This work was successful in outlining an area of strong magnetic response with co-incident geochemical values. This was in an area where no trenching had been completed, nor was there any known mineralization (between drill holes G78-8 and G78-9). It is believed this work by Caltex was the last work completed on the property prior to being acquired by Gruenwald and Leishman.

Regional Geology

Mapping by the Geological Survey of Canada indicates that the LG-1 claim to be underlain by rocks of the Archean (or later) Mount Ida Group. The Mara and Sicamous Formations which consist of quartzites, argillites, limestones, and schists (sericite and chlorite), have been mapped in the immediate area of the claim group. The predominant foliation within these metamorphosed units strike's approximately east to west with an indicated dip of 35° to 45° to the north. A major, northerly striking fault is indicated by the G.S.C to pass through the claim group.

More recent work by the B. C. M. M. A. R. has placed the Sicamous and Mara Formations at the base of the Devonian Eagle Bay Succession. This recent work has suggested the Sicamous Formation is the basal suite of sediments to the predominantly volcanic Eagle Bay assemblage. This lithological change is considered to represent a facies change as opposed to a time change. The Eagle Bay Formation is the host for numerous base and precious metal deposits including the Samatosum silver, base metal deposit presently being mined by Minnova/Rea Gold Corporation.

The claims lie very near the western margin of the extensional Shuswap Metamorphic Complex. Pegmatite dykes seen in the northern area of the property and described in drill logs are probably connected to this metamorphic complex.

Property Geology

The description of the property geology is taken from Gruenwald (1982) and from observations made by the owners during visits to the property.

The LG-1 claim is underlain mainly by fine grained units of probable sedimentary origin. These units consist mainly of quartzites, micaceous quartzite and quartz sericite schists. Some micaceous schists and carbonaceous schists were also observed. Not noted by previous operators was a dark green mafic volcanic unit which was observed in the area of trenching south and east of the adit (Adit Zone or Conductor A). Granite gneisses and pegmatites have been observed in the areas of previous trenching.

The mica schists, the more common rock type observed, are a pale beige white colour, fine to locally coarse grained and weakly to moderately fissile. Muscovite mica is dominant in these schists, however lenses rich in biotite and chlorite have been observed. Intercalated with the mica schists are lenses of massive, generally fine grained, micaceous quartzites. Granitic and pegmatite dykes are common, in places cutting the local planes of schistosity near the north and west area of the property. These intrusive dykes are generally narrow (less than 1 metre width) and considered more likely products derived from partial melting during the intense metamorphism of the schists.

Observed schistosity attitudes were variable, with strikes ranging from N 70° E to N 145° E and dipping from 40° to 50° to the north.

Mineralization was observed in the dump immediately adjacent to the adit and in-situ in the road cut above the adit. This mineralization consists of massive to semi-massive sulphides, made up of pyrite, sphalerite, galena with minor chalcopyrite and pyrrhotite. Mineralized horizons (up to 1 metre thick) observed in the road cut above the adit appear to be conformable to bedding. Character samples taken in this zone returned values up to 12% combined lead-zinc and 5 ounces silver. Copper and gold values were low. A new exposure of massive sulphides has been located on L0+00, between 1+00

and 1+25S. Two large boulders of massive pyrite with sub-economic grades in base and precious metal mineralization (Samples LGR -5, 6) were sampled. Similar material appears to outcrop at 1+12 S on the line. These samples are located on the axis of Conductor B. Perhaps the most significant aspect of the two rock samples (LGR-5 and 6) is the fact both samples are zinc enriched in a ratio of 3.5:1 over lead. Previous assay data from trenches and drill holes near the western end of the conductor has always indicated lead enrichment. This apparent zinc enrichment might indicate a metal zonation along the strike length of the conductor.

Scattered fragments of sulphide mineralization have been found within the area of trenching near the west end of Conductor B however due to slumping and an inadequate grid system it has not been possible to map the mineralization.

1989 Field Program

Introduction

The field work completed by the operators during 1989 included completing 3.3 kilometres of chained and flagged grid lines, 5.5 kilometres of magnetometer survey, 3.3 kilometres of VLF-EM surveys, the collection and analyses of 24 soil and 6 rock samples and the preparation of a more detailed compilation plan. In addition a number of sample sites (rock samples) collected by Teck Corporation are plotted on the compilation plan. Acquisition of most of the pertinent drill hole information was completed. Drill hole collars and traces are shown on the attached compilation plan. A new base plan was drafted for the property at a scale of 1:2,500 that allows most of the claim area to be displayed.

Geochemical Surveys

Sampling Method

A total of 24 soil samples and 11 rock samples were collected during the 1989 field season. Sample locations are shown on Figure 5 with important assay data highlighted. All analytical data, sample descriptions and analytical methods are included in Appendix I.

Soil samples were collected over the area designated as Conductor C. Time and cost constraints limited soil sampling to areas interpreted to be immediately above the axis of the interpreted conductor. Six samples were collected at 12.5 metre intervals on each of the 4 lines where the VLF-EM conductor had been detected. All soil samples were collected from the "B" soil horizon, usually at a depth of 15-30 centimetres with a small shovel.

Samples were collected in waterproof kraft envelopes and upon completion of the survey were taken to Kamloops Research and Assay Laboratory Ltd.

The owners also collected 6 rock samples (LGR-1 to LGR-6) while 5 other samples (Sample No. 56752 to 56756) were collected and submitted by Teck personnel.

Laboratory Determination

Soil samples were analysed by Atomic Absorption methods for gold (geochemistry) and I.C.P. analysis (30 element). Rock samples submitted by Leishman/Gruenwald were analysed by geochemical methods (and assayed when necessary). This was completed by Kamloops Research and Assay Laboratories Ltd.

Samples submitted by Teck Corporation were submitted to Eco-Tech Labs of Kamloops and subjected to 30 element I.C.P. analysis. High grade samples were assayed for copper, lead and zinc when appropriate.

Presentation of Results

A listing of all analytical data and sample descriptions is included in Appendix I. All soil sample sites and rock sample locations are shown on Figure 5. Values for copper, lead, zinc and silver are shown for soil samples with the more interesting values highlighted. Individual values for key elements from the rock sampling are highlighted when appropriate.

Discussion of Results

Two grab samples collected by Teck (No. 56753 and 56755) ran 14% and 12% combined lead-zinc with values to 0.67% copper and greater than 4 ounces per tonne silver. Both of these samples were collected from a trench above the Adit Zone (Conductor A). A third sample from the same area (No. 56752) was a chip across 3 metres which assayed better than 6% combined lead-zinc-copper with approximately 2 ounces silver. Although not ore grade, values were similar to those previously reported in this area by Annis Mines Ltd. in 1966 (see History).

One of Teck's samples (No. 56756) was from the area of Conductor B. Although very anomalous in copper, lead, zinc, and silver, assays were not completed (see Figure 5 and Appendix I). This sample was collected adjacent to an old trench and described as being massive pyrite.

The owners collected 6 rock samples (LGR 1 to LGR 6) from various parts of the property. Samples LGR 1 to LGR 3 consisted of sulphide rich float collected near a road along L0+00, 7+50S (south of Conductor C). Although not significantly anomalous (up to 145 ppm copper) this material may indicate the presence of sulphide rich strata in the vicinity of the southern grid area.

LGR 4 was collected from the base of a large outcrop of quartz sericite schists and quartzites near the interpreted axis of Conductor C. No values of significance were indicated.

Two samples (LGR-5 and LGR-6) were taken from very large boulders of massive sulphide/iron formation found along Line 0+00, between 1+00 and 1+25S. The location of these boulders

co-incides with the axis of the interpreted Conductor B where it crosses line 0+00. The boulders (to 1 metre size) have been uncovered during recent logging operations that are post drilling (1978). A very minimal amount of trenching would be needed in this area to reach bedrock and hence properly evaluate Conductor B along this line. Both LGR 5 and LGR 6 were assayed for base and precious metals returning 0.28% Cu, 0.46% Pb, 1.65% Zn and 0.52 oz. Ag (LGR 5) and 0.46% Cu, 1.28% Pb 4.40% Zn and 0.99 oz. Ag (LGR 6). The most significant aspect of these two samples was the distinct enrichment of zinc over lead with the ratio of approximately 3.5:1. Silver values appear to have close to a 1:1 ratio with lead which is significantly higher than seen from any trench assay data from Conductor A (Adit Zone) or from trench or drill samples from the western extension of Conductor B.

Although these findings are very preliminary this data might indicate a zonation of base and precious metal values along the strike length of the conductor. This indication of zonation might also lead to speculation of a higher grade core of mineralization being present within the conductor itself.

Field observations at the location of LGR 5 and LGR 6 indicate depth to bedrock in the immediate area of these boulders would be relatively shallow (one to three metres).

A number of soil samples were collected along the axis of Conductor C. Of these samples a number of sample sites on Line 0+00 returned interesting if not anomalous values in copper, lead, zinc and silver (see Figure 5). One sample returned values of 132ppm copper and 2.3ppm silver, a second sample site 115ppm lead and at least two other sites greater than 270ppm zinc. Although there appears to be no line to line correlation of anomalous values the values outlined above do indicate a geochemical enrichment of the soils along Line 0+00.

The possibility of these anomalous values in soils being an indication of geochemical enrichment of the underlying strata should be investigated.

Geophysical Surveys

VLF-EM Survey

Instrumentation and Survey Method

All lines were surveyed with a Sabre Electronics VLF-EM unit, model 27, with readings taken at 25 metre intervals along the cross lines. Since the direction of the grid lines was north to south, the Annapolis transmitting station was used as the source of the primary field. A total of 3.3 line kilometres were chained, flagged and surveyed during the 1989 assessment period.

The Sabre Electronics VLF-EM unit and method of reading is similar to other VLF-EM equipment. The method of reading is to locate the orientation of the transmitting station (in this case Annapolis) from the null of the field strength. From orientation at right angles to the transmitting station, the maximum field strength (100%) is adjusted by a gain control knob. Turning back and facing the transmitter station, the unit is then held vertical. The coil now at right angles to the transmitting station is rotated to locate the field strength null position. The angle of rotation is then recorded either to the right (+) or left (-).

Lines were recorded in field notes as if all lines were surveyed in a south to north direction. This was done to facilitate the use of the Fraser Filter Method in order to calculate and display anomalies. The following calculation illustrates the Fraser Filter Method:

South a _____ b _____ c _____ d North where a, b, c, d are station readings.
F is the Filtered Value with $F = (a + b) - (c + d)$.

The Fraser Filter Method serves three useful purposes in the display and interpretation of results:

- (1) Crossovers (normal anomaly interpretation) are displayed as high positive numbers, which may

be contoured to correlate the varying strength of a conductor along its axis , and to enhance interpretation and display of the better conductors.

(2) Topography has a major effect in the reading of ground EM equipment. Steep hills will influence either the positive or negative orientation of the hill. Consequently ridges will be displayed as apparent crossovers. The Fraser Filter Method helps to smooth out some of the topographic effect, consequently apparent anomalies are not as enhanced as if they had been shown as profiles of the raw data.

(3) For the same topographic reasons, strong anomalies may in fact not produce an actual crossover in steep terrain. The Fraser Filter Method enhances these anomalies to their proper perspective.

Presentation of Results

All Fraser Filtered values are plotted on a 1 : 2,500 scale base plan (Figure 3). Field readings with Fraser Filter calculations are included in Appendix II.

All new data was contoured at +10° intervals to illustrate the interpreted anomalies. Results are classified as anomalous if over +10 °. The new lines have been plotted with the results obtained in previous surveys. The table below lists the new lines added to the grid for the 1989 survey work.

Line	2+50W	BL to 3S
Line	2+00W	3S to 10S
Line	1+00W	3S to 6S
Line	0+50W	0+50N to 3S
Line	0+00	BL to 7+50S
Line	1E	BL to 6S
Line	2E	BL to 3S

New Lines Established For 1989 Survey

Table III

Discussion of Results

The VLF-EM survey completed in 1989 better delineated Conductor B (see Figure 3) near the baseline and partially outlined another conductor (Conductor C) to the south. In addition a number of other one line conductors have been identified. Further work is necessary to determine if any of these line conductors have any strike extent.

These individual conductors and line anomalies are shown on Figure 3 and discussed below.

(1) The strike length of Conductor B has been extended from previous survey work from L1+00W to L2+00E. In addition, infill lines at 2+50W and 4+50 W have been completed which better define the strike direction of this conductor. The outline of this conductor is shown on Figure 3 and as seen on the plan a well defined Fraser Filtered conductor extends from L5+00W , 0+37N to L2+00E,1+87S (strike direction of N300°W). The strike length of this conductor is greater than 700 metres with Fraser Filtered values ranging up to +57°.

Drill hole G78-8 appears to have been collared on the axis of the conductor near Line 0+50W. Drill hole information indicates approximately 5 feet of massive sulphides were encountered at a shallow depth however no assay data is available. Most of the remaining drilling and trenching appears to have been concentrated near the western end of the conductor (see Figure 5).

(2) A well defined conductor with Fraser Filtered values to +60° has been defined from Line 2+00W, 4+50S to Line L1+00E, 4+56S. This conductor (Conductor C) strikes in a N270°W direction and appears to be related to a break in slope of local topography. Notes on the Field Strength (shown in Appendix II) show a distinct field strength increase with the associated calculated Fraser Filtered values of this conductor. This increase in Field Strength values indicates a true bedrock source of conductivity as opposed to an anomaly due to topographical effects.

There is no evidence of previous exploratory work along this conductor.

(3) Several one line conductors have been outlined from this recent survey work. Further work is necessary to determine whether these line conductors have any strike extent and whether they are related to bedrock sources. These conductors are listed below and can be seen on Figure 3.

Line No.	Conductor Axis	Fraser Filter Values
Line 2+00W	8+50S to 9+00S	+19°
Line 2+00W	5+62S	+24°
Line 0+00	6+25S	+13°
Line 2+00E	0+87S	+17°

VLF-EM Line Conductors

Table IV

Magnetometer Survey

Instrumentation and Survey Method

A Unimag Proton Magnetometer with a digital readout was used for this survey. The Unimag magnetometer measures the total field magnetics in gammas (one gamma accuracy). A base station was established however due to the lack of any major diurnal drift it was not necessary to make any "drift" corrections. Readings were normally taken every 25 metres with the operator facing in a north direction however in areas of significant gradient changes over short intervals readings were taken at intermediate (12.5 metre) intervals.

A total of 5.5 line kilometres was surveyed along north south lines as indicated on Figure 4. As this magnetometer survey was a continuation of a previous grid and survey started in 1987 the listing below shows the lines surveyed during the 1989 assessment period.

L6+00W	4N to 3S
L5+50W	BL to 3S
L5+00W	BL to 3S
L 2+50W	BL to 3S

L2+00W	BL to 10S
L1+50W	BL to 3S
L1+00W	0+50N to 6S
L0+50W	0+50N to 3S
L0+00	BL to 7+50S
L1+00E	BL to 6S
L2+00E	BL to 3S

Presentation of Results

The background value (Total Field Magnetics) for this survey area is approximately +58,000 gammas. No attempt was made to filter background from actual field readings. All survey values are plotted on Figure 4 (plan scale of 1:2,500). All readings (in gammas) were plotted including the intermediate stations of 12.5 metre intervals. These readings were then contoured at an interval of 500 gammas.

Discussion of Results

The continuation of the magnetometer survey from previous work shows the same very irregular pattern of magnetic gradient variation in the northern part of the survey area (north of 3+00S). South of 3+00S on all lines surveyed the magnetic gradient is much more regular which probably demonstrates a gross change in lithology from the north to southern areas of the survey grid.

A correlation can be seen between the axis of Conductors A and B with magnetic highs. The strong dipole effect as exhibited on L1+50W near 1+00S (magnetic gradient of 22,000 gammas) indicates a body dipping to the north which corresponds to geological observations of the host strata.

This area of maximum magnetic relief is probably due to a zone of massive pyrrhotite along the axis of Conductor B.

Conductor C does not show a strong correlation between magnetic highs and the axis of the conductor however there are two spot highs (L1+00W, 4+50S and L1+00E, 4+75S) of less than 300

gammas that do correspond to the axis of the conductor. The significance of these remains to be explained.

On L2+00W, centred at 9+37S there is a major gradient change in magnetics (approximately 2,700 gammas). This "magnetic high" lies immediately south of a weak but distinct VLF-EM conductor on the same line (see Figures 3 and 4).

Conclusions

The continued survey work completed on the LG-1 claim has clearly indicated that the known mineralized horizons (Conductors A and B) have a good electromagnetic and magnetic response.

This recent VLF-EM and magnetometer survey has better delineated Conductor B. In addition, prospecting along this conductor has revealed the existence of boulders of massive sulphides with significant values in base metals and silver (Samples LGR 5 and LGR 6). There are indications that a metal zonation occurs along the strike length of this conductor.

A previous drill hole spotted by Granges in 1978 (G78-8) appears to have been set-up immediately on top of the Conductor B as outlined by the recent survey work. It is conceivable that this drill hole did not properly test the target. A second drill hole (G78-7) near the eastern end of the same conductor may not have fully tested the target area. No samples were collected from this hole despite a number of references to mineralization in the drill logs. A strong magnetic anomaly (+22,000 gammas) located along the axis of the same conductor has not been drill tested. Assuming drill holes G78-7 and G78-8 did not properly test the downdip and eastern extensions of Conductor B there appears to be up to 500 metres of untested geophysical conductor.

In-situ mineralization identified by the operators in the area of the Adit (Conductor A) appears to be strata controlled. Also, the identification of mafic volcanics in the same area indicates the geology of this property has never been properly mapped. There is no indication that assays for gold were completed on a regular basis.

The identification of a strong VLF-EM conductor (Conductor C) with some enrichment of base metals and silver in the soils, parallel to and south of areas of past work appears to open up a new target area.

The LG-1 mineral claim hosts potentially economic, stratabound, massive sulphide mineralization. Further work should be orientated towards the re-evaluation of this claim geologically and geophysically .

Recommendations

The LG-1 mineral claim clearly warrants further exploration and development. This should consist of two phases with a proposed budget of \$181,950.

Phase I

Continued grid and geophysical surveys over the entire area of the claim. Remaining area of claims to be covered with 100 metre grid. Areas of interest would be detailed with lines spaced at 50 metres (less if necessary for magnetic data).

Geological mapping of the property at a scale of 1:2,500. This should be followed by detailed sampling of altered and mineralized outcrops and soil sampling over and immediately adjacent to any geophysical conductors.

Backhoe trenching of geophysical and geochemical targets.

Phase II

Drill testing of Conductor B at depth and along strike and the drill testing of other targets developed in Phase I.

Budget Proposal

Phase I

Establishment of grid and geophysical surveys	\$9,000.00
Geochemical surveys (soils and rock chip, approximately 450 samples)	7,000.00
Geological Mapping (structural and stratigraphic control)	7,000.00
Trenching (40 hours backhoe and supervision)	8,500.00
Reporting	<u>3,000.00</u>
Total	\$34,500.00
Contingency 10%	<u>3,450.00</u>
Total Costs Phase I	\$37,950.00

Phase II

Diamond Drilling, 1,000 metres NQ core @ \$130.00/metre (all incl.)	\$130,000.00
Reporting	<u>4,000.00</u>
Total	\$134,000.00
Contingency	<u>10,000.00</u>
Total Costs Phase II	\$144,000.00

Total Projected Costs For Phased Program **\$181,950.00**

Douglas A. Leishman
Douglas A. Leishman, B.Sc.
Consulting Geologist

February 22, 1990

Kamloops, B. C.

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Appendices

Appendix I

**Analytical Data
Rock and Soil Samples**

GEOCHEMICAL ANALYSIS METHODSSample Preparation

1. Soils - The samples are dried in our geochemical drying oven and then screened through a stainless steel 80 mesh sieve. The minus 80 fraction is reserved for analysis and the plus 80 fraction is discarded (unless we have been requested to save it).
2. Rocks - The samples are dried, crushed, split then ground using a ring-grinder to approximately -100 mesh.

Au Method

Half to one assay ton of sample is weighed, silver added along with fluxes and the sample is started as a fire assay. After cupellation the bead is dissolved and the sample is mixed to ensure homogeneity and, after settling, is read on an atomic absorption spectrophotometer using an air acetylene flame.

Cu. Pb. Zn. Ag. Mo. Ni. Sb. Co. Fe. Cd. Bi. Mn
Atomic Absorption

Weigh 1 gram of sample into test tube. Add .5ml nitric acid. Place in hot water bath for 30 minutes. Add 1.5ml hydrochloric acid and leave in hot water bath for a further 90 minutes. Bulk to 10ml with distilled water. Mix thoroughly and read on A.A. For Mo samples $AlCl_3$ must be added. Use background correction for Pb, Ag, Sb, Co, Cd.

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ICP_METHOD

.5 grams of sample is digested with 3ml 3-1-2 HCl-HNO3-H2O at 95 degrees for one hour and is diluted to 10ml with water. This leach is partial for Mn, Fe, Sr, Ca, P, La, Cr, Mg, Ba, Ti, B, W and limited for Na, K and Al.

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**** GEOCHEMICAL REPORT ****

To: MR DOUG LEISHMAN
BOX 1288
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V2C 5H3

Number: G 2227

Date: NOV 21, 1989

Proj.:

Attn:

PAGE 1 / 1

KRAL NO.	IDENTIFICATION	AU PPB
1	4+008 LO	3.0
2	4+12.55	3.0
3	4+255	3.0
4	4+37.55	3.0
5	4+508	3.0
6	4+62.55 LO	3.0
7	4+37.55 L1E	3.0
8	4+508	3.0
9	4+62.55	3.0
10	4+755	3.0
11	4+87.55	3.0
12	5+008 L1E	3.0
13	4+255 L1W	3.0
14	4+37.55	3.0
15	4+508	3.0
16	4+62.55	3.0
17	4+755	3.0
18	4+87.55 L1W	3.0
19	4+255 L2W	3.0
20	4+508	3.0
21	4+62.55	3.0
22	4+755	3.0
23	4+87.55 L2W	3.0

IN AU COLUMN 3 INDICATES <5 PPB

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** ICP ANALYSIS **

To: Mr. Doug Leishman
Box 1288
Kamloops, B.C.
V2C 6H3

Number: G 2232

Date: Dec. 15, 1989

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Element	Reported In	Sample No. AD113	Sample No. AD113-1	Sample No. L2W 4+37.55
Mo	ppm	5	5	1
Cu	ppm	1573	110	14
Pb	ppm	52	35	12
Zn	ppm	112	125	154
Ag	ppm	3.7	0.7	0.1
Ni	ppm	12	105	36
Co	ppm	1	2	12
Mn	ppm	210	1050	273
Fe	percent	0.79	4.03	1.98
As	ppm	32	60	7
Au	ppm	ND	ND	ND
Hg	ppm	ND	ND	ND
Sr	ppm	60	74	26
Cd	ppm		1	1
Sb	ppm	130	1	2
Bi	ppm		1	1
V	ppm	8	137	34
Ca	percent	1.27	4.26	0.20
P	percent	0.01	0.08	0.07
La	ppm		1	6
Cr	ppm	195	367	75
Mg	percent	0.65	2.79	0.37
Ba	ppm	108	155	245
Tl	percent	0.01	0.15	0.14
B	ppm	47	55	22
Al	percent	0.08	2.33	1.99
Na	percent	NA	NA	NA
Si	percent	0.02	0.05	0.03
W	ppm	3	1	1
Se	ppm	1	3	2
U	ppm	3	3	3

ANOMALOUS RESULTS;
FURTHER ANALYSES
BY ALTERNATE
METHODS SUGGESTED

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Element	Reported In	Sample No. LO 4+00S	Sample No. LO 4+12.5S	Sample No. LO 4+25S	Sample No. LO 4+37.5S
Mo	ppm	1	1	1	1
Cu	ppm	132	16	21	26
Pb	ppm	36	22	22	115
Zn	ppm	192	174	316	271
Ag	ppm	2.3	0.3	0.1	0.5
Ni	ppm	36	58	56	67
Co	ppm	11	14	22	19
Mn	ppm	474	460	1182	221
Fe	percent	2.11	2.19	2.86	2.69
As	ppm	2	2	2	2
Au	ppm	ND	ND	ND	ND
Hg	ppm	ND	ND	ND	ND
Sr	ppm	39	34	35	24
Cd	ppm	1	1	1	1
Sb	ppm	2	2	2	2
Bi	ppm	2	6	2	5
V	ppm	24	27	30	32
Ca	percent	0.22	0.22	0.19	0.10
P	percent	0.09	0.11	0.14	0.11
La	ppm	7	5	10	8
Cr	ppm	20	13	22	26
Mg	percent	0.29	0.19	0.32	0.41
Ba	ppm	139	184	315	285
Ti	percent	0.08	0.12	0.05	0.10
B	ppm	141	5	5	5
Al	percent	1.56	3.26	2.21	2.65
Na	percent	0.01	0.01	0.01	0.01
Si	percent	0.03	0.07	0.03	0.03
W	ppm	1	1	1	1
Be	ppm	1	2	2	2

ANOMALOUS RESULTS:
FURTHER ANALYSES
BY ALTERNATE
METHODS SUGGESTED

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Number: G 2227
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Element	Reported In	Sample No. L0 4+50S	Sample No. L0 4+62.5S	Sample No. L1E 4+37.5S	Sample No. L1E 4+50S
Mo	ppm	1	1	1	1
Cu	ppm	12	9	21	13
Pb	ppm	33	18	18	16
Zn	ppm	224	231	196	162
Ag	ppm	0.7	0.1	0.1	0
Ni	ppm	57	56	43	57
Co	ppm	14	16	16	12
Mn	ppm	156	152	356	228
Fe	percent	1.93	2.44	3.12	2.41
As	ppm	2	2	2	2
Au	ppm	ND	ND	ND	ND
Hg	ppm	ND	ND	ND	ND
Sr	ppm	23	23	34	41
Cd	ppm	1	1	1	1
Sb	ppm	7	2	2	2
Bi	ppm	6	3	2	2
V	ppm	23	29	27	25
Ca	percent	0.11	0.11	0.19	0.16
P	percent	0.07	0.10	0.05	0.05
La	ppm	8	4	8	10
Cr	ppm	16	18	17	11
Mg	percent	0.20	0.25	0.22	0.11
Ba	ppm	207	144	154	182
Ti	percent	0.12	0.12	0.05	0.06
B	ppm	5	5	5	5
Al	percent	3.02	3.34	1.86	2.12
Na	percent	0.01	0.01	0.01	0.01
Si	percent	0.03	0.06	0.03	0.04
W	ppm	1	1	1	1
Be	ppm	2	2	2	2

ANOMALOUS RESULTS:
FURTHER ANALYSES
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V2C 6H3

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Element Reported In Sample No. Sample No. Sample No. Sample No.
L1E 4+62.5S L1E 4+75S L1E 4+87.5S L1E 5+00S

Element	Reported In	Sample No. L1E 4+62.5S	Sample No. L1E 4+75S	Sample No. L1E 4+87.5S	Sample No. L1E 5+00S
Mo	ppm	1	1	1	1
Cu	ppm	35	28	9	21
Pb	ppm	25	47	14	20
Zn	ppm	202	200	210	191
Ag	ppm	0.1	0.1	0.1	0.1
Ni	ppm	36	42	20	47
Co	ppm	14	14	13	15
Mn	ppm	419	351	1461	471
Fe	percent	4.57	2.53	1.82	2.82
As	ppm	2	2	3	2
Au	ppm	ND	ND	ND	ND
Hg	ppm	ND	ND	ND	ND
Sr	ppm	39	27	21	23
Cd	ppm	2	1	1	1
Sb	ppm	4	2	2	2
Bi	ppm	2	3	2	2
V	ppm	38	26	25	26
Ca	percent	0.20	0.15	0.13	0.14
P	percent	0.13	0.10	0.24	0.07
La	ppm	6	9	3	8
Cr	ppm	42	20	17	24
Mg	percent	0.76	0.33	0.26	0.38
Ba	ppm	210	176	238	120
Ti	percent	0.11	0.10	0.10	0.06
B	ppm	42	5	5	5
Al	percent	2.00	2.63	1.46	1.50
Na	percent	0.01	0.01	0.01	0.01
Si	percent	0.02	0.03	0.03	0.02
W	ppm	1	1	1	1
Be	ppm	2	2	1	1

ANOMALOUS RESULTS;
FURTHER ANALYSES
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Kamloops, B.C.
V2C 6H3

Number: G 2227

Date: Nov. 23, 1989

Proj.:

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Element	Reported In	Sample No. L1W 4.25S	Sample No. L1W 4+37.5S	Sample No. L1W 4+50S	Sample No. L1W 4+62.5S
Mo	ppm	1	1	1	1
Cu	ppm	18	25	10	18
Pb	ppm	25	31	17	57
Zn	ppm	124	108	141	117
Ag	ppm	0.1	0.1	0.1	0.1
Ni	ppm	46	30	51	46
Co	ppm	15	11	12	13
Mn	ppm	252	169	242	154
Fe	percent	2.35	2.49	1.73	2.14
As	ppm	2	2	3	3
Au	ppm	ND	ND	ND	ND
Hg	ppm	ND	ND	ND	ND
Sr	ppm	35	18	34	27
Cd	ppm	1	1	1	1
Sb	ppm	2	2	2	2
Bi	ppm	2	2	4	2
V	ppm	27	25	24	27
Ca	percent	0.13	0.13	0.25	0.13
P	percent	0.04	0.04	0.08	0.07
La	ppm	10	12	8	9
Cr	ppm	23	26	19	23
Mg	percent	0.32	0.43	0.27	0.33
Ba	ppm	274	55	131	217
Ti	percent	0.09	0.07	0.10	0.09
B	ppm	5	5	5	5
Al	percent	2.24	1.01	2.11	1.94
Na	percent	0.01	0.01	0.01	0.01
Si	percent	0.03	0.02	0.04	0.03
W	ppm	1	1	1	1
Be	ppm	1	1	1	1

ANOMALOUS RESULTS:
FURTHER ANALYSES
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METHODS SUGGESTED

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To: Mr. Doug Leishman
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Kamloops, B.C.
V2C 6H3

Number: G 2227

Date: Nov. 23, 1989

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Element	Reported In	Sample No. L1W 4+75S	Sample No. L1W 4+87.5S	Sample No. L2W 4+25S	Sample No. L2W 4+50S
Mo	ppm	1	1	1	1
Cu	ppm	8	25	12	30
Pb	ppm	17	16	19	33
Zn	ppm	155	82	202	108
Ag	ppm	0.1	0.1	0.1	0.1
Ni	ppm	34	26	71	35
Co	ppm	13	12	26	15
Mn	ppm	693	163	432	136
Fe	percent	1.60	2.44	2.02	2.78
As	ppm	4	2	6	2
Au	ppm	ND	ND	ND	ND
Hg	ppm	ND	ND	ND	ND
Sr	ppm	32	12	14	15
Cd	ppm	1	1	1	1
Sb	ppm	5	2	2	4
Bi	ppm	5	2	3	2
V	ppm	21	26	29	35
Ca	percent	0.24	0.10	0.11	0.07
P	percent	0.22	0.04	0.20	0.08
La	ppm	4	14	4	20
Cr	ppm	15	28	18	30
Mg	percent	0.21	0.48	0.23	0.54
Ba	ppm	232	76	174	62
Ti	percent	0.09	0.07	0.13	0.07
B	ppm	5	5	5	5
Al	percent	1.74	1.03	2.93	1.93
Na	percent	0.01	0.01	0.01	0.01
Si	percent	0.04	0.02	0.06	0.02
W	ppm	1	1	1	1
Be	ppm	1	1	2	2

ANOMALOUS RESULTS:
FURTHER ANALYSES
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** ICP ANALYSIS **



To: Mr. Doug Leishman
Box 1288
Kamloops, B.C.
V2C 6H3

Number: G 2227
Date: Nov. 23, 1989

Attn:

Proj.:

Element Reported In Sample No. Sample No. Sample No. Sample No.
L2W 4+62.5S L2W 4+75S L2W 4+87.5S

Element	Unit	L2W 4+62.5S	L2W 4+75S	L2W 4+87.5S
Mo	ppm	1	1	1
Cu	ppm	15	13	14
Pb	ppm	11	11	15
Zn	ppm	137	99	110
Ag	ppm	0.1	0.2	0.2
Ni	ppm	64	42	40
Co	ppm	14	12	12
Mn	ppm	268	167	187
Fe	percent	2.20	1.73	1.92
As	ppm	3	3	5
Au	ppm	ND	ND	ND
Hg	ppm	ND	ND	ND
Sr	ppm	38	23	25
Cd	ppm	1	1	1
Sb	ppm	4	8	2
Bi	ppm	2	2	2
V	ppm	24	22	27
Ca	percent	0.16	0.15	0.15
P	percent	0.05	0.12	0.12
La	ppm	8	9	9
Cr	ppm	20	19	24
Mg	percent	0.41	0.26	0.32
Ba	ppm	209	119	204
Ti	percent	0.10	0.12	0.12
B	ppm	5	5	5
Al	percent	2.29	2.80	2.84
Na	percent	0.01	0.01	0.01
Si	percent	0.02	0.03	0.04
W	ppm	1	3	5
Be	ppm	1	2	2

ANOMALOUS RESULTS:
FURTHER ANALYSES
BY ALTERNATE
METHODS SUGGESTED

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** ASSAY CERTIFICATE **

To: Mr. Doug Leishman
Box 1288,
Kamloops, B.C.
V2C 6H3

Number: K 9911
Date: Nov. 21, 1989
Proj.:

Attn:

No.	Description	Au	Ag	Cu	Pb	Zn	Zn/Pb
		ozs/ton	ozs/ton	percent	percent	percent	
1	LGR 5	<.001	.52	.28	.46	1.65	3.58
2	LGR 6	<.001	.99	.46	1.28	4.40	3.43

LGR 5 Ag/Pb 1.13
LGR 6 Ag/Pb .77

Jack A. Stewart

B.C. Certified Assayer

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**** GEOCHEMICAL REPORT****

To: MR. DOUG LEISHMAN
BOX 1288,
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V2C 6H3

Number: E 2226

Date: NOV 21, 1989

Proj.:

Attn:

PAGE 1 / 1

KRAL NO.	IDENTIFICATION	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM
1	LBR 1	3.0	0.4	67.0	54.0	35.0
2	LBR 2	3.0	0.4	145.0	21.0	43.0
3	LBR 3	3.0	0.2	17.0	22.0	44.0
4	LBR 4	3.0	0.2	39.0	45.0	34.0

IN AU COLUMN 3 INDICATES <5 PPB

L-00 1+25.5 - Bldrs of highly oxidized pyrrhotite
rich material. Fragmental texture
evident. Sulphides are very fine
w/ occasional qtz eyes. Chpy, noted.
Bldrs have been moved here during
logging operation - suspect bedrock
source is within 20m.
Jcl sample
Bldrs 10cm across
Pb, Zn content does not appear to
be high.

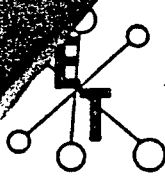
000 1+07.5 Another bldr of massive "fragmental"
sulphides. Fg - scg py, po,
chpy, qz, sph.
Bldr ~ 1m across.

Bedrock @ 1+12.5 - extremely limonite (2x2m)
- exposed by cut. likely source of
host rock to sulphides.

237° 1 20m from L-0; 1+25.5 is small etc on
lenses of sericitic schist w/ qtz veins
At 310° staphy, WS.
Rock is extremely limonite (etc 1x1m)

SAMPLE LIST

SAMPLE NO.	DESCRIPTION	ppb	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
		Au	Ag	Cu	Au	Hg	As	Cu	Pb	Zn	Ag	Ba	W
56756	<p>GRAB - MASSIVE PYRITE RICH MIN. - FROM TRENCH 3 AREA - IS FLOAT OR FLYROCK FROM OLDTRENCHING.</p>				5		20	2218	710000	710000	93.4		600



ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING

10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

Randy Farmer

JULY 17, 1989

CERTIFICATE OF ANALYSIS ETK 89-324

TECK EXPLORATIONS LTD.
960, 175 SECOND AVENUE
KAMLOOPS, B.C.
V2C 5W1

ATTENTION: FRED DALEY

SAMPLE IDENTIFICATION: 7 ROCK CHIP samples received June 19, 1989
PROJECT: 30007 21

ET#	Description	AU (ppb)	AU (g/t)	AU (oz/t)	AG (g/t)	BA (ppm)	CJ (%)	PB (%)	ZN (%)
324 - 1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
324 - 2	56752		.05	.001	67.0		.39	5.33	.51
324 - 3	56753		.13	.004	136.0		.33	12.65	1.50
324 - 4	56754	55							
324 - 5	56755		.06	.002	86.0		.67	4.32	7.55
324 - 6	56756	5							
324 - 7	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

NOTE: < = less than

Douglas Howard
ECO-TECH LABORATORIES LTD.
DOUG HOWARD
B.C. Certified Assayer

CC: RANDY FARMER
SO89/TECK1

SAMPLE LIST

SAMPLE NO.	DESCRIPTION	g/t	g/t	o/o	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Au	Ag	Cu	Au	Hg	As	Cu	Pb	Zn	Ar	Mo	W
56752	<u>LG1 PROPERTY</u> - 3.0m chip from trench above adit (on Road) Po, Cu, Cpy, Sph	$\frac{.05}{.001}$	670g	$\frac{Cu}{0.39\%}$ $\frac{Pb}{5.33\%}$ $\frac{Zn}{0.51\%}$			35	3308	>10000	4894	55.8		110
56753	<u>LG1 PROPERTY</u> - Trench above adit - composite of sulphide rich pods within fault. Po, Ge, cpy, sph	$\frac{.13}{.004}$	136.0g	$\frac{Cu}{0.33\%}$ $\frac{Pb}{12.65\%}$ $\frac{Zn}{1.50\%}$			75	2601	>10000	>10000	1256		390
56754	<u>LG-1 PROPERTY</u> - ~ 20cm CHIP OF WHITE (BLEACHED) FAULT Bx/COUGE ZONE, HIGHLY PYRITIC - ADJACENT TO VEIN				55		45	2770	>10000	4688	8.0		100
56755	<u>LG-1 PROPERTY</u> - GRAB OF SPHALERITE RICH MINERALIZATION (+cpy) FROM LARGELY SLOUGHED IN TRENCH.	$\frac{.06}{.002}$	86.0g	$\frac{Cu}{0.67\%}$ $\frac{Pb}{4.32\%}$ $\frac{Zn}{7.55\%}$			15	4532	>10000	>10000	66.2		1520

ECO-TECH LABORATORIES LTD.

TECK EXPLORATIONS LTD. - ETK89-324A

10041 EAST TRANS CANADA HWY.
KAMLOOPS, B.C. V2C 2J3
PHONE - 604-573-5700
FAX - 604-573-4557

960 - 175 SECOND AVENUE
KAMLOOPS, B.C.
V2C 5M1
ATTN: FRED BAILEY

JULY 14, 1989

VALUES IN PPM UNLESS OTHERWISE REPORTED

PROJECT: 30007

7 ROCK CHIP SAMPLES RECEIVED JUNE 19, 1989

ETK#	DESCRIPTIONS	AG	AL(2)	AS	B	BA	BI	CA(2)	CD	CO	CR	CU	FE(2)	K(2)	LA	MG(2)	MN	MO	NA(2)	NI	P	PB	SB	SN	SR	TH(C)	U	V	W	Y	ZN
324	- 1	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	
324	- 2 56752	55.8	1.52	35	6	15	<5	.09	25	17	87	3308	6.67	.60	(10	1.41	758	8	.06	12	1910	>10000	50	80	12	.06	20	20	110	1	4894
324	- 3 56753	125.6	1.54	75	10	<5	<5	.04	82	57	51	2601	8.63	.62	(10	1.63	892	14	.05	34	1820	>10000	70	20	4	.06	30	20	390	1	>10000
324	- 4 56754	8.0	.86	45	12	<5	<5	.03	19	40	107	2770	8.69	.80	(10	.89	366	16	.06	21	1710	>10000	20	<20	4	.14	20	20	100	1	4688
324	- 5 56755	66.2	1.59	15	16	5	25	.05	237	5	89	4532	7.30	.56	(10	1.69	764	37	.06	19	2530	>10000	55	140	5	.07	30	29	1520	1	>10000
324	- 6 56756	93.4	.08	20	<2	<5	<5	.05	76	19	34	2218	8.55	.04	(10	<.01	852	19	.04	41	1550	>10000	60	<20	3	<.01	40	<1	600	2	>10000
324	- 7	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	

LG1
PROPERTY

NOTE: < = LESS THAN

FAX: TECK, KAMLOOPS
SC89/TECK1

Douglas Howard

ECO-TECH LABORATORIES LTD.
DOUG HOWARD
B.C. CERTIFIED ASSAYER

Appendix II

Geophysical Data

LINE	STATION	DIP L°	FILTER	F.S.
1-450W	3100 ^s	-18		47
	2+75	-8	-24	64
	2+50	-2	-10	60
	2+25	0	-2	64
	2+00	0	-4	65
	1+75	0	-16	63
	1+50	+4	-26	70
	1+25	+12	-12	75
	1+00	+18		95
	0+75	+10	(+24)	>100
	0+50	-4	(+38)	>100
	0+25 ^s	-6	(+18)	>100
	0+00	-6	+2	>100
	0+25N	-6		>100
150W	3100 ^s	-4		75
	2+75	-14	(+16)	54
	2+50	-14	-2	52
	2+25	-20	-21	48
	2+00	-6	-15	40
	1+75	-7	-4	40
	1+50	-4	-6	40
	1+25	-5	-9	37
	1+00	0	-2	35
	0+75	0	>-22	30
	0+50 ^s	+7		34

LINE	STATION	DIP L°	FILTER	F.S.
1-450W	0+25 ^s	+15		35
	0+00	-2		50
* Extending 1-2 ^N to 10+00 ^s				
LINE 2 ^N	10+00 ^s	-10		63
	9+75	-16	-2	45
	9+50	-16	-18	37
	9+25	-8	-12	38
	9+00	-6	(+14)	40
	8+75	-6	(+19)	35
	8+50	-22	-13	35
	8+25	-9	-18	30
	8+00	-6		35
	7+75	-7		35
	7+50	-6		40
	7+25	-13		35
	7+00 ^s	-8 (0 before?)		35
For rest of line see earlier notes				

LINE	STATION	DIP L°	FILTER	F.S.
2+00E	3+00 ^s	+4		60
	2+75	+6	-21	65
	2+50	+13	-9	70
	2+25	+18	+13	100
	2+00	+10	+16	>100
	1+75	+8	+10	>100
	1+50	+4	+4	50
	1+25	+4	+9	50
	1+00	+4	+17	70
	0+75	-5	+8	65
	0+50	-4	+2	55
	0+25	-5		55
	0+00	-6		55

LG-1 CLAIM

LINE	STATION	DIPL°	FILTER	F.S.
1+00E	6+00S	-5	23	45
	5+75	0	27	47
	5+50	+4	30	40
	5+25	+18	-12	45
	5+00	+16	+20	70
	4+75	+18	+52	87
	4+50	-4	+36	90
	4+25	-14	4	50
	4+00	-8	-12	42
	3+75	-6	-10	42
	3+50	-4	-12	42
	3+25	0	-9	40
	3+00	+7	-12	40
	2+75	+3	-17	40
	2+50	+11	-12	38
	2+25	+10	+27	40
	2+00	+16	-12	38
	1+75	+32	+44	57
	1+50	+6	+40	85
	1+25	-2	+8	75
	1+00	0	+4	90
	0+75	-4	+5	95
	0+50	-7	-5	90
	0+25	-2		80
1+00E	B/L	-4		80

LINE	STATION	DIPL°	FILTER	F.S.
2+00W	10+00S			
	9+75			
	9+50			
	9+25			
	9+00			
	8+75			
	8+50			
	8+25			
	8+00			
	7+75			
	7+50			
	7+25			
	7+00 ^S	0		30
	6+75	0	4	34
	6+50	+7	4	35
	6+25	+2	8	38
	6+00	+4	+5	38
	5+75	+8	+24	40
	5+50	-7	-4	44
	5+25	-5	-34	28
	5+00	+10	+1	26
	4+75	+12	+41	47
	4+50	-8	+31	55
L-2+00W	4+25 ^S	-11	+10	35
	4+00 ^S	-16		

LG-1 CLAIM.

LINE	STATION	DIPL°	FILTER	F.S.
L-2+00W	4+00 ^S	-16	-2	27
	3+75	-13	-10	25
	3+50	-12	-14	43
	3+25	-7	-5	37
	3+00	-4	11	35
	2+75	0		32
	2+50	0		35
	2+25			
	2+00			
	1+75			Previously surveyed C1
	1+50			
	1+25			
	1+00			
	0+75			
	0+50			
	0+25			
L-2+00W	B/L			

LG-1 CLAIM

WE	STATION	DIPL°	FILTER	F.S.
-0+00	7+50 ^s	-6		50
	7+25	-4	-21	49
	7+00	+3	-11	47
	6+75	+8	+9	48
	6+50	+2	+13	52
	6+25	0	-1	50
	6+00	-3	-2	43
	5+75	+6	+10	46
	5+50	-7	-1	42
	5+25	0	-10	37
	5+00	0	-15	42
	4+75	+3	+1	52
	4+50	+12	+37	60
	4+25	-10	+34	60
	4+00	-12	+8	42
	3+75	-20	-15	37
	3+50	-10	-22	32
	3+25	-7	-15	32
	3+00 ^s	-1	-9	30
	2+75	-1	-9	32
	2+50	+2	-11	35
	2+25	+5	-14	32
	2+00 ^s	+7	-	35
0+00	1+75	+14	-18	35

LINE	STATION	DIPL°	FILTER	F.S.
L-0+00	1+50	+16	+8	
	1+25	+22	+36 ✓	
	1+00	0	+22	
	0+75	+2	+4	
	0+50	-2	+3	
	0+25	0		
L-0+00	0+00	-3		
L-0+50 ^w	3+00 ^s	-2		47
	2+75	0	8	49
	2+50	+3	7	50
	2+25	+3	-3	55
	2+00	+7	0	55
	1+75	+2	-11	63
	1+50	+8	-14	68
	1+25	+12	-4	70
	1+00	+12	+27	65
	0+75	+12	+47	100
	0+50	-15	+9	75
	0+25	-8	-13	72
	0+00 ^s	-4	-4	70
	0+25 ^N	-6		65
	0+50	-2		65
	0+75			

LINE	STATION	DIPL°	FILTER	F.S.
L	6+00 ^s			
	5+75			
	5+50	0°		47
	5+25	+6		49
	5+00	+2	-18	37
	4+75	+22	+42	48
	4+50	+2	+60 * ≥100!	
	4+25	-20	+16	80
	4+00	-16	-2	60
	3+75 ^s	-18	-10	52
	3+50	-16	-22	50
	3+25	-8	18	45
	3+00	-4		45
L 1+00 ^w	2+75 ^s	-2		47

LINE	STATION	RDG	TIME	NO.
2W	4+00 ^s	57687	1:35	
	3+75	57750		
	3+50	57526		
	3+25	57360		
	3+00	57598		
	2+75	57654		
	2+50	58055		
	2+25	⁵⁹¹⁰⁰ 58476		
	2+00	58389		
	1+75	57828		
	1+50	57271		
	1+25	57913		
	1+00	58073		
	0+75	57730		
	0+50	58607		
	0+25	⁵⁸⁷⁴⁰ 57898		
	0+00	57840	1:52	
2S0W	0+00	57585		
	0+25 ^s	57589		
	0+50	58089		
	0+75	⁵⁷⁶⁵⁶ 57603		
	1+00	57406		
	1+25	57728		
	1+50 ^s	57914		

LINE	STATION	RDG	TIME	NO.
L-2+50W	1+75 ^s	57941		
	2+00	58117		
	2+25	⁵⁷⁹⁷² 57881		
	2+50	57866		
	2+75	57787		
	3+00 ^s	57735	2:05	
L-1+50W	3+00 ^s	58035	2:12	
	2+75	⁵⁸⁵²⁶ 58662		
	2+50	⁵⁸⁴⁸⁷ 58446		
	2+25	58299		
	2+00	58154		
	1+75	58334		
	1+50	58197		
	1+25	⁵⁸¹⁷⁰ 56475		
	1+00	46950 *		
	0+75	⁵⁹⁶⁰⁷ 68337		
	0+50	59847		
	0+25	⁵⁸⁹²⁵ 58280		
	0+00	⁵⁹⁴⁵⁴ 57876		
L-1+50W	0+00	57346	(57341 Nov 11th)	

LINE	STAT	RDG	TIME	NO.
L-2+00E	3+00 ^s	57689	2:54	
	2+75	57907		
	2+50	57723		
	2+25	57738		
	2+00	57698		
	1+75	57705		
	1+50	⁵⁷⁸³³ 57770		
	1+25	57801		
	1+00	57818		
	0+75	58030		
	0+50	57682		
	0+25	57589		
	0+00	57793		
B/L	1+75 E	57873		
	1+50 E	57778		
	1+25	57776	3:15	
	1+00	58286 * (58299)	Nov 11th	

LINE	STATION	RDG	TIME
H50W	0+50N	57733	3:15
	0+25	57685	
	0+00	57737	
	0+25S	57843	
	0+50	57843	
	0+75	⁵⁷⁰³⁸ (58303)	
	1+00	⁵⁷⁷⁵⁰ 57676	
	1+25	57847	
	1+50	57810	
	1+75	57838	
	2+00	57754	
	2+25	⁵⁷⁶³⁰ 57687	
	2+50	57684	
	2+75	57822	
	3+00	57835	3:27
-1+00W	5+50S	57860	
	5+25	57607	
	5+00	57610	
	4+75	57471	
	4+50	(58067)	
	4+25	57900	
	4+00	57884	
	3+75	57824	
-1+00W	3+50	57806	3:32

LINE	STATION	RDG	TIME
L-1+00W	3+25	57815	
↑	3+00	57794	
↓	2+75	57768	3:48
	2+50	57670	
	2+25	57496	
	2+00	⁵⁷¹¹⁰ 58174	
	1+75	57837	
	1+50	58858	
	1+25	58250	
	1+00	(58419) 58346	
	0+75	⁵⁷⁹⁴¹ 57492	
	0+50	57913	
	0+25	(59421) 57868	
	0+00	⁵⁷⁸⁰² 58321	- Reading 58317 @ 1 good change
L-1+00W	0+25N	57818	
	0+25N	57735	
	0+50N	57703	
BASE	STATION	FILE IN	
		57705	4:12
			Change = -5X simi * No corrections r

LINE	STATION	RDG	TIME
L-2W	10+00S	58200	8:55
		58605	
	9+75	⁵⁶⁵⁷¹ 56588	
	9+50	58100	
	9+25	59105	
	9+00	(58353) 58760	
	8+75	⁵⁸²⁵⁸ 57800	
	8+50	57986	
	8+25	57626	
	8+00	57856	
	7+75	57766	
	7+50	57775	
	7+25	57767	
	7+00	57714	
	6+75	57735	9:20 P.M.
	6+50	57613	1:24
	6+25	57983	
	6+00	57362	
	5+75	57214	
	5+50	57633	
	5+25	57831	
	5+00	57810	
	4+75	57589	
	4+50	57873	
	4+25	57761	
	4+00	57688	

LINE	STATION	READING	TIME
B/L	2+00 ^W	57671	1:52 PM
	1+75	57672	
	1+50	57341	
	1+25 ←	58086 57920	
	1+00	(58317)	
	0+75	57945	
	0+50	57740	
	0+25 ^W	57684	
	0+00	57749	
	0+25 ^E	57773	
	0+50	57624	
	0+75	57712	
	1+00 ^E	58299	
L-1+00 ^E	0+25 ^S	57994	
	0+50	58005	
	0+75	58009	
	1+00	57830	
	1+25	57801	
	1+50	58609 59985 57948	
	1+75	57595	
	2+00	57687 57890	
L-1+00 ^E	2+25 ^S	58025	

LINE	STATION	READING	TIME
L-1+00 ^E	2+50 ^S	57870	2:18
	2+75	57720	
	3+00	57690	
	3+25	57644	
	3+50	57684	
	3+75	57736	
	4+00	57691	
	4+25	57703	
	4+50	57743	
	4+75	(58220)	
	5+00	57911	
	5+25	57746	
	5+50	57576	
	5+75	58016	
L-1+00 ^E	6+00 ^S	57753	
L-0+00	7+50 ^S	57627	2:35
	7+25	57754	
	7+00	(58321) *	
	6+75	57946 57986	
	6+50	57737	
	6+25	57786	
L-0+00	6+00 ^S	57711	

LINE	STATION	RDG	TIME
L-0+00	5+75 ^S	67658	
	5+50	58026	
	5+25	57685	
	5+00	57379	
	4+75	57265	
	4+50	56682	
	4+25	57800 57885	
	4+00	57771 57847	
	3+75	57761	
	3+50	57709	
	3+25	57745	
	3+00	57858	
	2+75	57478 57693	
	2+50	(58423) -	
	2+25	57570 57735	3:00
	2+00	57733	
	1+75	57671	
	1+50	57659	
	1+25	57743 57961 (58170) *	
	1+00	57781	
	0+75	58005	
	0+50	58016	
	0+25	57831	3:10
L-0+00	0+00	57750 (57749 E start of loop)	

**Appendix III
List of Personnel**

D. A. Leishman, B.Sc.	^{DAL} ^{25,} March 15 , 1989, Nov. 10, 11, 12, 1989 (4 days field) Jan. 3, 4, 7, 12, 1990, Feb. 22, 23, 1990 (4 days office)
W. Gruenwald, B. Sc.	Nov. 10, 11, 12, 1989 (3 days field)
J. Belik, field helper	March 15 , 1989 ^{25, 1989} ^{DAL}

**Appendix IV
Statement of Costs**

Labour

D. A. Leishman, B.Sc. 8.0 days @ \$300./day	\$2,400.00
W. Gruenwald, B.Sc. 3.0 days @ \$300./day	900.00
J. Belik, helper 1.0 day @\$100./day	<u>100.00</u>
Total	\$3,400.00

Expenses and Disbursements

Geoquest Expenses

Drafting (WG) 21 hours @ \$25.00	\$525.00
Truck Expenses (3 days X \$40./day) plus .25/km.	182.50
Meals/Hotel Sicamous	91.09
Drafting supplies, prints, freight etc.	<u>81.97</u>
Total Geoquest	\$880.56

D. A. Leishman

Truck Rental and Mileage (4 x 4) 4 days x \$50./day =	\$200.00
Equipment Rental:	
Sabre VLF-EM and magnetometer 4 days x \$30./day	120.00
Meals/Hotel Sicamous	91.09
Drafting (B. Mirtle) 2 hours @\$27.50	55.00
Xeroxing, printing and binding	90.00
Telephone & shipping	<u>35.00</u>
Total D. A. Leishman	\$591.09

Total	\$1,471.65
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Total Costs Incurred	\$4,871.65
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Appendix V

Certificate of Qualifications

DOUGLAS A. LEISHMAN, B.Sc., A.R.S.M.

Consulting Geologist

Suite 2-423 First Avenue, Kamloops, B. C.

Mailing Address: P. O. Box 1288 M.P.S. Kamloops, B.C. V2C 6H3
Telephone or Fax 604-828-6150

I, DOUGLAS A. LEISHMAN, of Kamloops, British Columbia, Do Hereby Certify That:

- (1) I am a self employed Consulting Geologist residing at the above address.
- (2) I am a graduate of the Northern Alberta Institute of Technology, Exploration Technology (Minerals Option), 1971, Edmonton, Alberta.
- (3) I am a graduate of the Imperial College of Science and Technology, Royal School of Mines, London, England, B.Sc. (Hons.) Mining Geology, 1981. I have been actively involved in mineral exploration since 1971.
- (4) I am an Associate of the Geological Association of Canada and a member of the Institute of Mining and Metallurgy (London, England).
- (5) I am the author of this report which is based on field work performed by myself and Werner Gruenwald during the 1989 field season.

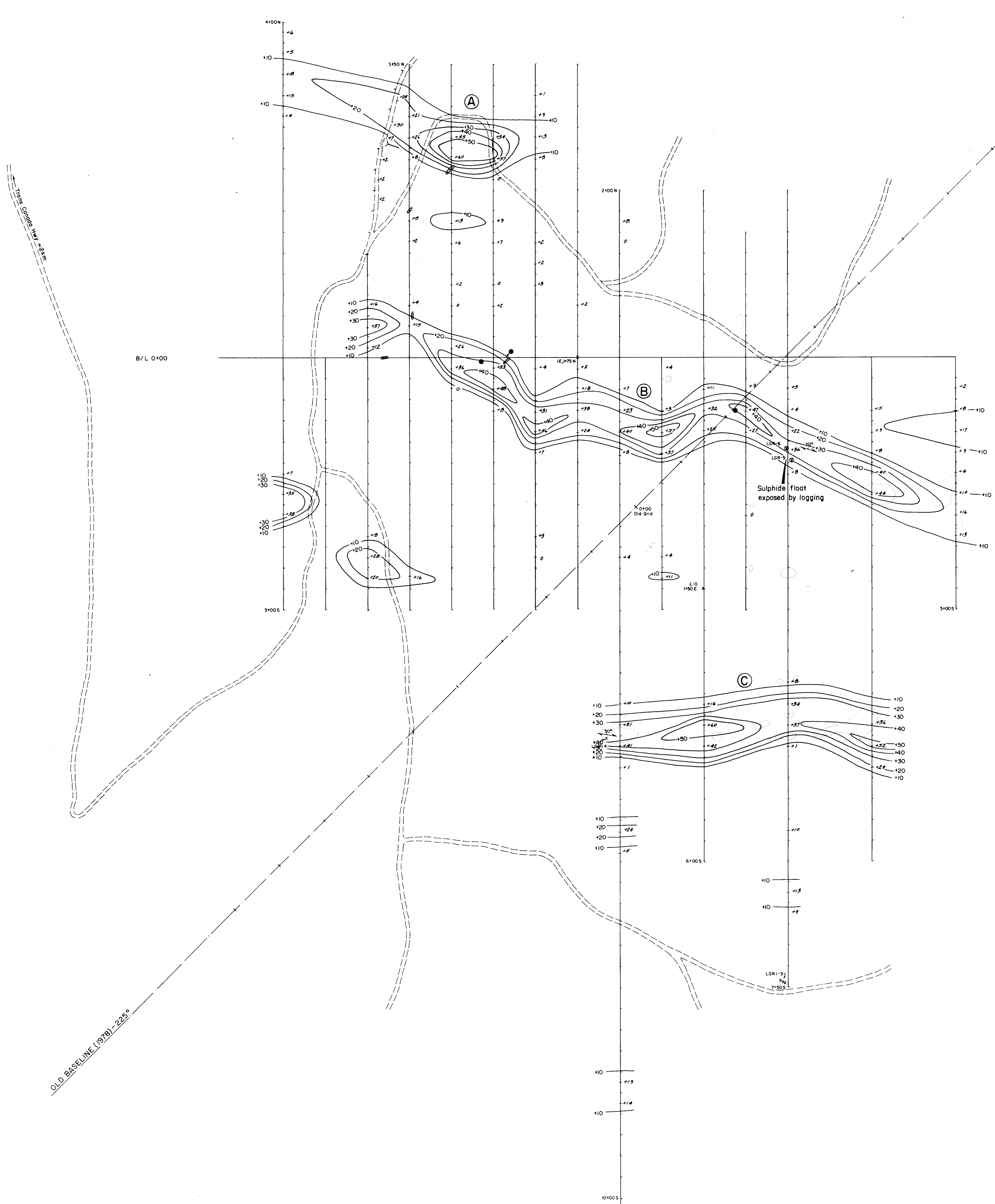
Douglas A. Leishman

Douglas A. Leishman, B.Sc.

Consulting Geologist

Kamloops, B. C.
February 22, 1990

L-6+00W L-5+00W L-4+00W L-3+00W L-2+00W L-1+00W L-0+00 L-1+00E L-2+00E



LEGEND

- 3000 TOPOGRAPHIC CONTOUR IN FEET (A.S.L.)
- ROAD
- CLAIM POST AND BOUNDARY
- ADIT
- TRENCH
- DIAMOND DRILL HOLE
- GRID LINE WITH STATION MARKERS
- OLD GRID (1978) COORDINATE TIED INTO CURRENT GRID
- OUTCROP AREA
- SCHISTOSITY ATTITUDE
- ROCK SAMPLE LOCATION
- SULPHIDE FLOAT

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

19,824

LEISHMAN AND GRUENWALD

VLF-EM PLAN

LG-1 CLAIM

KAMLOOPS MINING DIVISION, BRITISH COLUMBIA

TECHNICAL WORK BY D. LEISHMAN, B.Sc.	SCALE 1:2,500
DRAWN BY: W.G.	DATE: DECEMBER, 1989
REVISIONS:	FIG. NO. 3

MAGNETIC SURVEY

- MAGNETIC READING EXPRESSED IN GAMMAS (TOTAL FIELD)
- 58,000 ISOMAGNETIC CONTOUR (C.I. = 500 GAMMAS)
- 57,000 MAGNETIC LOW

NOTE: INSTRUMENT USED - UNIMAG PROTON MAGNETOMETER

VLF-EM SURVEY

- FRASER FILTERED VALUES (RIGHT SIDE OF LINE)
- CONTOUR INTERVAL = 10°

NOTE: INSTRUMENT USED - SABRE ELECTRONICS MODEL 27 TRANSMITTER USED - ANNAPOLIS, MARYLAND, U.S.A.

ANOMALY LABEL



L-6+00W L-5+00W L-4+00W L-3+00W L-2+00W L-1+00W L-0+00 L-1+00E L-2+00E



OLD BASELINE (1978) - 222°

LEGEND

- 3000 TOPOGRAPHIC CONTOUR IN FEET (A.S.L.)
- ROAD
- CLAIM POST AND BOUNDARY
- ADIT TRENCH
- DIAMOND DRILL HOLE
- GRID LINE WITH STATION MARKERS
- OLD GRID (1978) COORDINATE TIED INTO CURRENT GRID
- OUTCROP AREA
- 50° SCHISTOSITY ATTITUDE
- LGR-1 x ROCK SAMPLE LOCATION
- SULPHIDE FLOAT

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

19,824
LEISHMAN AND GRUENWALD

**MAGNETIC PLAN
LG-1 CLAIM**

KAMLOOPS MINING DIVISION, BRITISH COLUMBIA

MAGNETIC SURVEY

- MAGNETIC READING EXPRESSED IN GAMMAS (TOTAL FIELD)
- 58,000 ISOMAGNETIC CONTOUR (C 1 = 500 GAMMAS)
- 57,000 MAGNETIC LOW

NOTE: INSTRUMENT USED - UNIMAG PROTON MAGNETOMETER

VLF-EM SURVEY

- FRASER FILTERED VALJES (RIGHT SIDE OF LINE)
- CONTOUR INTERVAL = 10°

NOTE: INSTRUMENT USED - SABRE ELECTRONICS MODEL 27 TRANSMITTER USED - ANNAPOLIS, MARYLAND, U.S.A.

A
ANOMALY LABEL

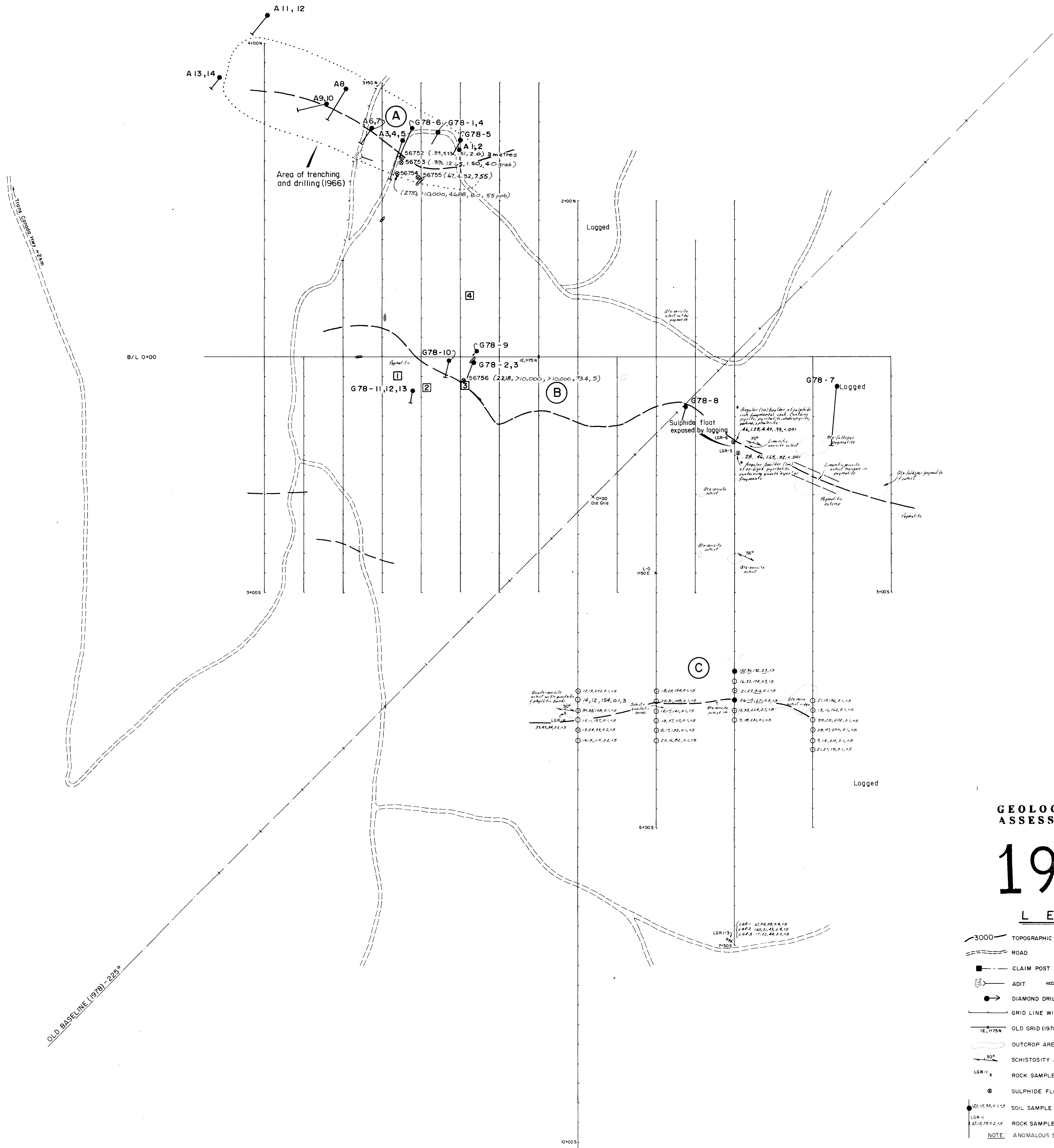
TECHNICAL WORK BY:
D. LEISHMAN, B.Sc. W. GRUENWALD, B.Sc.

SCALE:
1:2,500 0 25 50 metres 100

DRAWN BY: W.G. DATE: DECEMBER, 1989

REVISIONS: FIG. NO. 4

L-6+00W L-5+00W L-4+00W L-3+00W L-2+00W L-1+00W L-0+00 L-1+00E L-2+00E



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

19,824

LEGEND

- 3000 TOPOGRAPHIC CONTOUR IN FEET (A.S.L.)
- ROAD
- CLAIM POST AND BOUNDARY
- ADIT
- TRENCH
- DIAMOND DRILL HOLE (A1 - ANNIS MINES LTD, G78-1 - GRANGES)
- GRID LINE WITH STATION MARKERS
- OLD GRID (1978) COORDINATE TIED INTO CURRENT GRID
- OUTCROP AREA
- SCHISTOSITY ATTITUDE
- ROCK SAMPLE LOCATION
- SULPHIDE FLOAT - %CU, PB, ZN OZ/TON AG, AU
- SOIL SAMPLE VALUES FOR CU, PB, ZN, AG (PPM), AU (PPB)
- ROCK SAMPLE VALUES AS ABOVE EXCEPT FOR SULPHIDE FLOAT
- NOTE: ANOMALOUS SAMPLES ARE INDICATED BY SHADING / UNDERLINING
- AXIS OF VLF-EM CONDUCTOR
- TRENCH AREA, ANNIS MINES LTD.

MAGNETIC SURVEY

MAGNETIC READING EXPRESSED IN GAMMAS (TOTAL FIELD)

58,000 ISOMAGNETIC CONTOUR (C 1 = 500 GAMMAS)

57,000 MAGNETIC LOW

NOTE: INSTRUMENT USED - UNIMAG PROTON MAGNETOMETER

VLF-EM SURVEY

FRASER FILTERED VALUES (RIGHT SIDE OF LINE)

CONTOUR INTERVAL = 10°

NOTE: INSTRUMENT USED - SABRE ELECTRONICS MODEL 27 TRANSMITTER USED - ANNAPOLIS, MARYLAND, U.S.A.

LEISHMAN AND GRUENWALD

GEOCHEMICAL & GEOLOGICAL PLAN

LG-1 CLAIM

KAMLOOPS MINING DIVISION, BRITISH COLUMBIA

TECHNICAL WORK BY: LEISHMAN, B.Sc. W. GRUENWALD, B.Sc. SCALE: 1:2,500

DRAWN BY: W.G. DATE: DECEMBER, 1989. 25 30 metres 100

REVISIONS: FIG. NO. 5