

ARIS SUMMARY SHEET

District Geologist, Kamloops

Off Confidential: 89.11.24

ASSESSMENT REPORT 18031

MINING DIVISION: Lillooet

PROPERTY: Eldorado Creek

LOCATION: LAT 50 56 00 LONG 122 57 00

UTM 10 5642193 503513

NTS 092J15W

CLAIM(S): Dome 1-3, Dome Fr., Last Chance 1-8, Last Chance 1-2 Fr., Trail 1-6  
Trail Fr., Trail 1-2 Fr.

OPERATOR(S): Berkley Res.

AUTHOR(S): Friesen, P.S.

REPORT YEAR: 1988, 31 Pages

COMMODITIES

SEARCHED FOR: Gold, Silver

GEOLOGICAL

SUMMARY: Hurley volcanics and sediments intruded by Bralorne augite  
diorite underlie the property.

WORK

DONE: Geophysical

EMAB 45.2 km; VLF

MAGA 45.2 km

Map(s) - 1; Scale(s) - 1:10 000

LOG NO: 1129

RD.

ACTION:

FILE NO:

Assessment Work Report  
on the  
Airborne Magnetometer & VLF-EM Survey

on the

Eldorado Creek Claims  
Goldbridge, B.C.

92-J-15-W

FILMED

Lillooet Mining Division

Lat. 50 56' Long. 122 57'

Owned and operated by  
Berkley Resources Ltd *see 111*  
Ste 100 - 455 Granville St.  
Vancouver, B.C.

Airborne magnetometer and VLF-EM Survey  
by  
Columbia Airborne Geophysics

by  
P.S. Friesen P. Eng.  
31, October 1988

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

18,051

TABLE OF CONTENTS

	<u>Page</u>
General Statement	1
Property and ownership	1
List of Claims	2
Claim Location Map	3
Airborne Geophysical Survey	4
Statement of Costs	5
Certificate of Qualification	6
Appendix - Report on the Airborne Geophysical Survey [under separate cover].	

-1-

Assessment Work Report on the Eldorado Creek Claims belonging  
to Berkley Resources ~~Ltd.~~<sup>Inc. PSE</sup> - Airborne Magnetometer & VLF-EM Survey.

by  
P.S. Friesen P. Eng.  
31 October 1988

---

### General Statement

This report presents the data collected during an airborne magnetometer and VLF-Electromagnetometer survey over the Eldorado Creek Claims which belong to Berkley Resources ~~Ltd.~~<sup>Inc. PSE</sup>. An interpretation of the data and recommendations for further exploration are also included.

### Property and Ownership

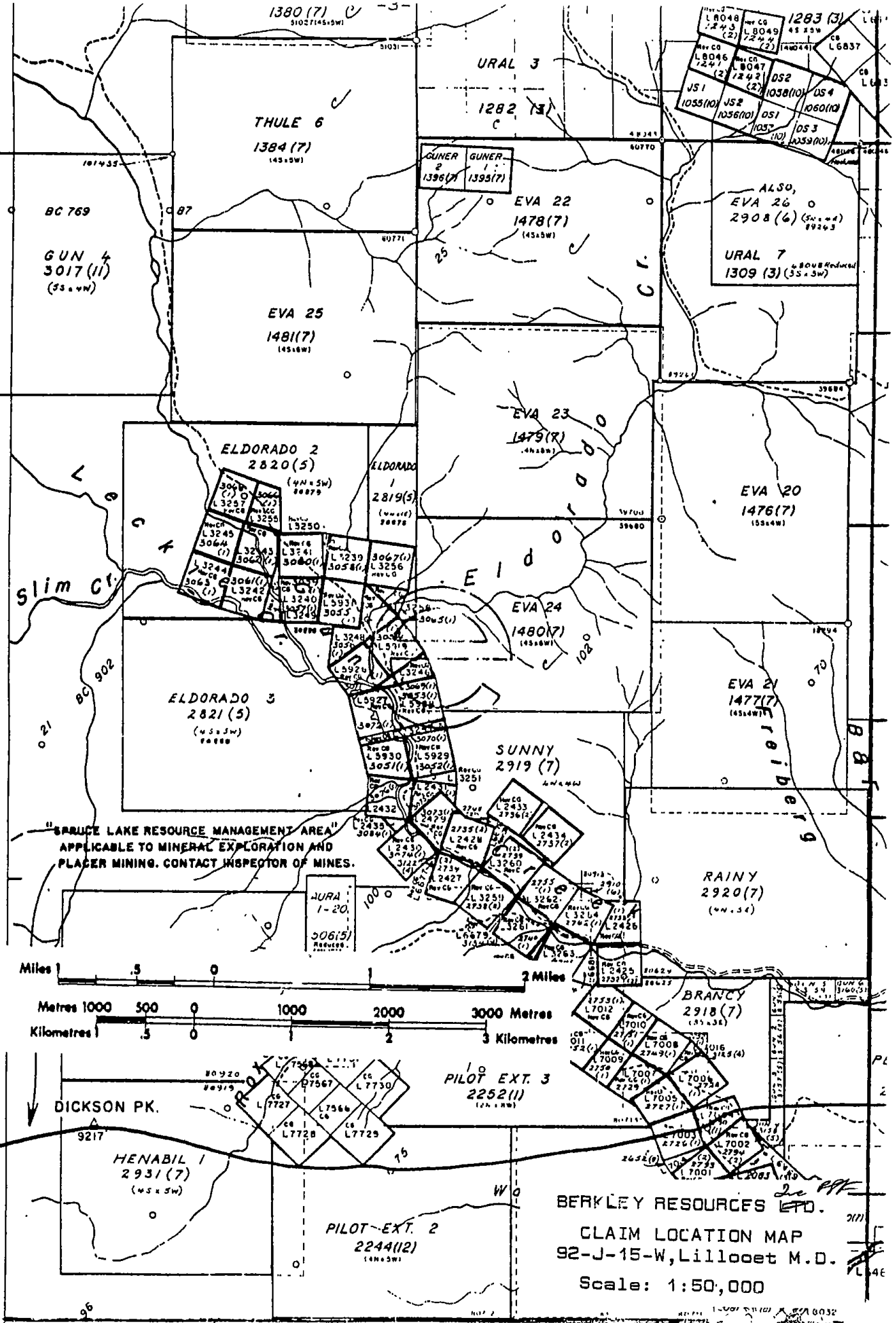
The property consists of 24 contiguous reverted crown granted claims. Several of the claims are fractions. For assessment work credit purposes, if the area of two claims combined in 25 hectares or less, the combined area is considered as one unit. This is the reason for Last Chance 2 and Last Chance 2 Fr. being considered two claims but one unit. Trail 2 and Trail 2 fraction are considered as one claim of one unit size.

Following is the list of claims in the Eldorado Creek area belonging to Berkley Resources ~~Ltd.~~<sup>Inc. PSE</sup>.

<u>Claim Name</u>	<u>Type</u>	<u>Rec.#</u>	<u>Lot #</u>	<u># Units</u>	<u>Expiry Date</u>
DOME 1	RC	3066	3255	1	Jan. 17, 1989
DOME 2	RC	3067	3256	1	Jan. 17, 1989
DOME 3	RC	3068	3257	1	Jan. 17, 1989
DOME FR.	RC	3065	3258	1	Jan. 17, 1989
LAST CHANCE FR.	RC	3056	3248	1	Jan. 17, 1989
LAST CHANCE 1	RC	3055	5931	1	Jan. 17, 1989
LAST CHANCE 1 FR.	RC	3057	3249	1	Jan. 17, 1989
LAST CHANCE 2	RC	3058	3239	1	Jan. 17, 1989
LAST CHANCE 2 FR.	RC	3058	3250	1	Jan. 17, 1989
LAST CHANCE 3	RC	3059	3240	1	Jan. 17, 1989
LAST CHANCE 4	RC	3060	3241	1	Jan. 17, 1989
LAST CHANCE 5	RC	3061	3242	1	Jan. 17, 1989
LAST CHANCE 6	RC	3062	3243	1	Jan. 17, 1989
LAST CHANCE 7	RC	3063	3244	1	Jan. 17, 1989
LAST CHANCE 8	RC	3064	3245	1	Jan. 17, 1989
TRAIL 1	RC	3051	5930	1	Jan. 17, 1989
TRAIL 1 FR.	RC	3069	3246	1	Jan. 22, 1989
TRAIL 2	RC	3052	5929	1	Jan. 17, 1989
TRAIL 2 FR.	RC	3052	3251	1	Jan. 17, 1989
TRAIL 3	RC	3072	5927	1	Jan. 22, 1989
TRAIL 4	RC	3053	5928	1	Jan. 17, 1989
TRAIL 5	RC	3071	5926	1	Jan. 22, 1989
TRAIL 6	RC	3054	5919	1	Jan. 17, 1989
TRAIL FR.	RC	3070	3247	1	Jan. 22, 1989

# M 92J/15W

(FOR PLACER SEE P 92J/15W)



MAP 92 J/14 E

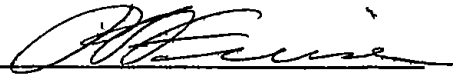
3111

14E

Airborne Geophysical Survey

The airborne geophysical survey has been reported on by  
Lloyd Brewer. His report is appended under separate cover.

Respectfully Submitted,



---

P. S. Friesen, P. Eng.

October 31, 1988

Statement of Costs

Airborne Geophysical Survey		\$ 4,520.00
Engineering and Supervision		<u>1,000.00</u>
	Sub Total	\$ 5,520.00
Management Fee		
Oniva Internation Services @ 15%		<u>828.00</u>
Office Overhead @ 10%		
	Sub Total	\$ <u>6,348.00</u>
	Total	\$ <u><u>6,982.80</u></u>



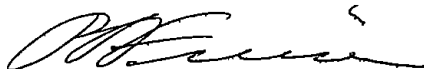
P.S. Friesen



Certificate of Qualifications

This is to certify that:

- 1) I, Peter Stanley Friesen reside at 6780 Sumas Prairie Rd.,  
Sardis, B.C. V2R 1A9
- 2) I am a Professional Engineer registered in the Province of  
British Columbia.
- 3) I graduated from the University of Saskatchewan in 1950,  
where I recieved a degree of Bachelor of Engineering in  
Geological Science.
- 4) I have practiced my profession for 37 years.



P.S. Friesen

GEOPHYSICAL REPORT  
ON  
AIRBORNE MAGNETIC AND VLF-EM SURVEYS  
OVER THE  
ELDORADO CREEK  
CROWN GRANTS  
LILLOOET MINING DIVISION  
BRITISH COLUMBIA

---

PROPERTY : 12km from Gold Bridge at the  
confluence of Gun Creek, Eldorado  
Creek and Leckie Creek.

WRITTEN FOR : BERKLEY RESOURCES <sup>Inc ORZ</sup> LTD.  
#100-455 Granville Street  
Vancouver, B.C. V6C 1T1

SURVEYED BY : COLUMBIA AIRBORNE GEOPHYSICAL  
SERVICES (1984) LTD.  
#611-470 Granville Street  
Vancouver, B.C. V6C 1V5

WRITTEN BY : LLOYD C. BREWER  
COLUMBIA AIRBORNE GEOPHYSICAL  
SERVICES (1984) LTD.

DATED : September 20, 1988

COPY

## TABLE OF CONTENTS

SUMMARY	i
CONCLUSIONS	ii
RECOMMENDATIONS	iii
INTRODUCTION	1
PROPERTY AND OWNERSHIP	2
LOCATION AND ACCESS	3
PHYSIOGRAPHY	3
HISTORY OF PREVIOUS WORK	3
GEOLOGY & MINERALIZATION	4
INSTRUMENTATION AND THEORY	
(a) Magnetic	4
(b) VLF-EM Survey	5
SURVEY PROCEDURE	7
DATA REDUCTION AND COMPILATION	7
DISCUSSION OF RESULTS	
(a) Magnetic Survey	8
(b) VLF-EM Survey	9
(c) Lineations	11
SELECTED BIBLIOGRAPHY	13
AUTHOR'S CERTIFICATION	14
AFFADAVIT OF COSTS	15

LIST OF ILLUSTRATIONS

At back of report

Property Location Map	1:8,600.000	Map 1
Claim Map	1:50,000	Map 2

In back pocket

Airborne Magnetic & VLF-EM	1:10,000	Map 3
----------------------------	----------	-------

SUMMARY

Airborne magnetic and VLF-EM surveys were carried out over the Gold Bridge property owned by Berkley Resources Ltd. of Vancouver, B.C. in the months of December 1987 and January 1988. The claims are located at the confluence of Gun Creek, Eldorado Creek and Leckie Creek. Access is easily gained by a four-wheel drive vehicle up the Gun Creek drainage. The terrain consists of moderate to dense coniferous trees. The purpose of the surveys was to aid in the mapping of geology as part of the exploration program in locating probable areas of gold mineralization.

Eldorado Creek property is underlain by the Triassic Hurley Formation consisting of interbedded argillite, sandstone, limestone and greenstone. These units strike north to west and dip gently west to south. They are in contact with greenstones, andesite and basaltic flows of the Pioneer Formation. Glacial overburden covers most of the property and is 1-10 meters in depth.

The airborne surveys were flown in straight lines at about a 50 meter terrain clearance with a separation of 200 meters. The instruments used were a Sabre Electronics VLF-EM proton precession magnetometer and a Sabre Electronics VLF-EM receiver. The magnetic data were picked from the strip charts and hand contoured. The contours were drawn on a survey plan on which the VLF-EM anomalies were plotted as well.

CONCLUSIONS

These are as follows:

1. The airborne magnetic survey has mapped bodies of volcanics of the Pioneer Formation as well as intrusive diorites.
2. The survey also has mapped sediments of the Hurley Group, some of which are possibly mineralized.
3. Both the VLF-EM and magnetic surveys revealed lineations within the survey area that are likely caused by fault, shear and/or contact zones. These can be important indicators of sulphide and native gold mineralization especially where the lineations cross.

RECOMMENDATIONS

These are as follows:

1. Thorough prospecting and/or geological mapping in addition to what so far has been carried out. This will also greatly aid in the interpretation of any geophysics and geochemistry that have been or may be carried out, especially the airborne magnetic survey.
2. Take soil samples along the survey lines at every 25 meters or along contour following 'reconnaissance lines'.
3. Ground VLF-EM and magnetic surveys as well as possibly low frequency EM in selected areas (such as MaxMin II EM system). The VLF-EM method has proven to be very useful in this area for discovering gold mineralization, especially together with soil sampling. An induced polarization-resistivity survey should be considered since it may well prove to be one of the best tools available for this area.
4. Trenching and diamond drilling of promising targets resulting from the above work.

GEOPHYSICAL REPORT  
ON  
AIRBORNE MAGNETIC AND VLF-EM SURVEYS  
OVER THE  
ELDORADO CREEK CROWN GRANT  
ELDORADO CREEK AREA  
LILLOOET MINING DIVISION  
BRITISH COLUMBIA

---

INTRODUCTION AND GENERAL REMARKS

This report discusses the survey procedure, compilation of data and the interpretation of low-level airborne magnetic and VLF-EM surveys carried out over the ELDORADO CREEK CROWN GRANTS in the Eldorado Creek area in December, 1987. The surveys were carried out by Lloyd C. Brewer, instrument operator and project manager, and John Kime, navigator, both of whom are of Columbia Airborne Geophysical Services (1984) Ltd. A total of 45.2 line km of airborne surveys were carried out over the property and area.

The object of the two surveys was to aid in the geological mapping of lithology and structure for the purpose of exploration of the type of gold mineralization as is found in the Gold Bridge and Bralorne area. Magnetic surveys have especially been proven to be a good geological mapping tool.



PROPERTY AND OWNERSHIP

The property consists of 24 contiguous crown grant claims totalling 22 units as shown on Map 2 and as described below:

<u>Claim Name</u>	<u>Type</u>	<u>Rec. #</u>	<u>Lot #</u>	<u># Units</u>	<u>Expiry Date</u>
DOME 1	RC	3066	3255	1	Jan. 17, 1989
DOME 2	RC	3067	3256	1	Jan. 17, 1989
DOME 3	RC	3068	3257	1	Jan. 17, 1989
DOME FR.	RC	3065	3258	1	Jan. 17, 1989
LAST CHANCE 1	RC	3055	5931	1	Jan. 17, 1989
LAST CHANCE 1 FR.	RC	3057	2340	1	Jan. 17, 1989
LAST CHANCE 2	RC	3058	3239	0	Jan. 17, 1989
LAST CHANCE 2 FR.	RC	3056	3250	1	Jan. 17, 1989
LAST CHANCE 3	RC	3059	3240	1	Jan. 17, 1989
LAST CHANCE 4	RC	3060	3241	1	Jan. 17, 1989
LAST CHANCE 5	RC	3061	3242	1	Jan. 17, 1989
LAST CHANCE 6	RC	3062	3243	1	Jan. 17, 1989
LAST CHANCE 7	RC	3063	3244	1	Jan. 1, 1989
LAST CHANCE 8	RC	3064	3245	1	Jan. 17, 1989
TRAIL 1	RC	3051	5930	1	Jan. 17, 1989
TRAIL 1 FR.	RC	3069	2346	1	Jan. 22, 1989
TRAIL 2	RC	3052	5929	1	Jan. 17, 1989
TRAIL 2 FR.	RC		3251	0	Jan. 17, 1989
TRAIL 3	RC	3072	5927	1	Jan. 22, 1989
TRAIL 4	RC	3053	5928	1	Jan. 17, 1989
TRAIL 5	RC	3071	5926	1	Jan. 22, 1989
TRAIL 6	RC	3054	5919	1	Jan. 17, 1989
TRAIL FR.	RC	3070	3247	1	Jan. 22, 1989

The expiry dates shown does not take into account the surveys under discussion as being accepted for assessment credits.

The 24 claims are owned by Berkley Resources Ltd., of Vancouver, British Columbia.

LOCATION AND ACCESS

The property is located at the confluence of Gun Creek, Eldorado Creek and Leckie Creek in the Chilcotin Ranges.

The geographical coordinates are 50<sup>0</sup>56'N latitude and 122<sup>0</sup>57'W longitude.

Access to the property can be gained by helicopter from Gold Bridge and there is also a road which runs north west from Tyaughton Lodge but the conditions are unpredictable.

PHYSIOGRAPHY

The property lies in the Chilcotin Ranges at the southeastern part of the Pacific Ranges which is a physiographic division of the Coast Mountains. The terrain is, in general, steep and mountainous, with the general slope facing north and northwest.

Elevations on the property vary from about 1,600 m a.s.l. at the southeast portion of the claims and drops to about 1,300 m a.s.l. on the northwest edge of the claims.

The main water sources would be Gun Creek as well as Eldorado and Leckie Creeks.

The forest cover consists primarily of fir and spruce, moderate in density and with an undergrowth light to moderate.

HISTORY OF PREVIOUS WORK

In July of 1983, X Caliber Resources Ltd. had a preliminary mapping and rock geochemistry survey performed on the property. A moderately high

geochemical background for gold was found to occur (Mazur, 1983). No work history prior to the X Caliber's work was located.

#### GEOLOGY & MINERALIZATION

The following is a condensed version of Mazur's (1983) property description. The property is underlain with probable Hurley Formation rocks. Bralorne plutonics also occur on the property.

In the southeast corner of the property, Hurley volcanics and sediments are intruded by Bralorne augite diorite. The diorite commonly contains disseminated pyrite. Quartz epidote veining is also common.

Near the northeast boundary, Hurley conglomerate with interbedded sandstone and minor siltstone occur. The bedding strikes at  $040^{\circ}/25^{\circ}$  NW. A strong jointing pattern exists oriented  $070^{\circ}/70^{\circ}$  SE.

Massive bedded, medium grained volcanic greenstone is located at the northern extremity of the property. Strong jointing developed at  $110^{\circ}/70^{\circ}$  N was noted.

#### INSTRUMENTATION AND THEORY

##### a) Magnetic Survey

The magnetic data are detected using a nuclear free precession proton magnetometer, manufactured by Sabre Electronic Instruments Ltd. of Burnaby, B.C. The magnetometer measures the total count of the earth's magnetic field intensity with a sensitivity of one gamma. The data are recorded on magnetic tape and 12 cm analog strip charts.

The magnetic patterns obtained from a regional airborne survey are directly related to the distribution of magnetite in the survey area. However, the geology cannot be deduced from isomagnetic maps by simply assuming that all magnetic highs are underlain by gabbro or ultramafic rocks, and that all magnetic lows are caused by limestone or chert. The problem with such a simplistic approach is that magnetite is not uniformly distributed in any type of rock. Other problems arise from the fact that most geologic terrains have rocks of high susceptibility superimposed on less 'magnetic' rocks, and vice versa. Cultural features such as powerlines, pipelines and railways also complicate matters. So many variables can be involved that it may be impossible to make a strictly accurate analysis of the geology of an area from magnetic data alone. It is preferable to use other information such as geological, photogeological, and electromagnetic in combination with magnetic data to obtain a more accurate geological analysis.

b) VLF-EM Survey

A two frequency omni-directional receiver unit, manufactured by Sabre Electronic Instruments Ltd., of Burnaby, B.C., was used for the VLF-EM survey. The transmitters used were NLK Arlington (Seattle), Washington, operation on 24.8 KHz, and Annapolis, Maryland, transmitting at 21.4 KHz. These signals are used due to their ideal orientation with respect to northwest and eastwest geological structures, and their good signal strength. The measurements taken during the survey is the variation in the horizontal component of the signal strength.

The VLF (Very Low Frequency) method uses powerful radio transmitters set up in various parts of the world for military communications. These powerful transmitters can induce electric currents in conductive bodies thousands of kilometers away from the radio source. The induced currents set up secondary magnetic fields which can be detected at surface through deviations in the normal VLF field. The VLF method is inexpensive and can be a useful

initial tool for mapping structure and prospecting. Successful use of the VLF requires that the strike of the conductor be in the direction of the transmitting station so that the lines of magnetic field from the transmitter cut the conductor. Thus, conductors with northeast to southeast strikes will respond to Annapolis transmissions, while conductors striking north to west will respond to the Seattle transmissions. Conductors striking east to northeast may respond to both stations, giving coincident field strength peaks.

The theory of VLF-EM interpretation is quite simple. Conductors are located at field strength maxima. In the Gold Bridge area, one may assume that a Seattle field strength peak represents a conductor with a generally north trend, and an Annapolis peak will be a conductor with an east/west trend. This, of course, only applies to conductors with clearly linear trends and cannot be assumed for single line anomalies.

It is impossible to determine the quality of conductors with any reliability, using field strength data alone. The question of linearity is in doubt if the conductor does not appear to cross the adjacent flight lines. The relatively high frequency results in a multitude of anomalies from unwanted sources such as swamps, creeks and cultural debris. However, the same characteristic also results in the detection of poor conductors such as faults, shear zones and rock contacts, making the VLF-EM a powerful mapping tool.

The interpretive technique requires information from magnetic surveys, air photo analysis, and ground traverses to aid in the discrimination between important and unwanted anomalies. Even armed with this information, the interpreter can be easily misled.

SURVEY PROCEDURES

A two meter bird was fitted with a magnetometer coil and 2 omni-directional EM receivers and towed beneath a helicopter on a 10 meter cable. The terrain clearance for the bird was 50 meters.

The suveys were contour flown at line spacing varying from 100-200 meters. Navigation was visual, using 1:50,000 scale maps blown up to 1:10,000.

The aircraft used to conduct this survey was a Bell 206 Jet Ranger, owned and operated by Bob Hold. Airspeed was a constant 60 kph so that the creek valley and canyons were penetrated thoroughly. The slow airspeed provided safely, detailed coverage of boxed in areas, and consistency of data retrieval, which is critical in rugged terrain.

The number of line kilometers flown covering the area as shown on Map 3 is 45.2.

I have over seven years experience in conducting aerial magnetic and electromagnetic surveys from fixed and rotary wing aircraft, under all types of terrain conditions.

DATA REDUCTION AND COMPILATION

The observant magnetic total field was recorded on analogue strip charts. These were played back together with audio recordings containing fiducial markers, and the fiducial markers were transferred to the strip charts. The fiducial markers were identified with topographic features along the flight lines. The magnetic data were taken from the strip charts and plotted. It was then contoured at a 100 gamma interval onto Map 3 at a scale of 1:10,000 (1 cm = 100 meters).

The VLF-EM anomalies were taken from the strip charts and plotted on Map 3 with the magnetic contours. For each anomaly, a heavy line along the flight line was drawn showing its half-width. An 'S' or an 'A' designated the anomaly as being from the Seattle transmitter or the Annapolis transmitter.

A question mark on the anomaly indicates that it could be caused by terrain. The survey area was somewhat rugged causing numerous VLF-EM anomalous responses, most of which was easily sorted out as being caused by terrain. However, some were difficult to sort out and they were therefore plotted with a question mark.

Strong anomalies were plotted with exclamation marks, and anomalies without any marks indicated average responses. Other symbols are explained on the sheets.

#### DISCUSSION OF RESULTS

##### a) Magnetic Survey

The magnetic field over the entire survey area is relatively quiet. The field ranges from a low of 1,700 gammas at the south western corner of the claim to over 2,700 gammas in two separate locations within the claim group. The background appears to be 2,000 gammas.

The magnetic anomalies of greater than 2,000-2,100 gammas occur within areas mapped as Upper Triassic Pioneer Formation volcanics and Bralorne Intrusives.

Areas of magnetic readings of less than 2,100 gammas correlate closely to mapped Hurley Formation sediments and conglomerates within the north eastern portions of the survey.

BIBLIOGRAPHY

British Columbia Mineral Exploration Review 1985, Information Circular  
1988-1.

Geological Survey of Canada, Summary Report for the year 1912.

Ivosevic, Stanley, Gold and Silver Handbook: On the Geology, Exploration,  
Production, Economics of large Tonnage, Low Grade Deposits.  
1984.

Levinson, A.A. (editor) Precious Metals in the Northern Cordillera, 1982;  
Published by the Association of Exploration Geochemists.

Mazur, R.S., Assessment Report # 11691, Geochemical report for the X Caliber  
Resources Ltd., August 1983.

McCann, W.S., Geology on Mineral Deposits of the Bridge River Map-area,  
British Columbia, 1922; memoir 130, Geological Survey of  
Canada.



CERTIFICATION

I, Lloyd C. Brewer, of the city of Vancouver, in the Province of British Columbia, Canada, do hereby certify:

That I am owner and president of Columbia Airborne Geophysical Services (1984) Ltd., with offices located at #611-470 Granville Street, Vancouver, B.C.

I further certify:

1. I am president of Columbia Airborne Geophysical Services (1984) Ltd., and have been employed full time in the mineral exploration industry for the past 7 years, both in Canada, U.S.A. and Mexico.
2. I was project manager and instrument operator for the Levon Group property aerial survey program, which covered over 1800 line kilometers.
3. This report was compiled from data obtained from the airborne survey carried out by Columbia Airborne Geophysical Services (1984) Ltd., under my direct supervision, during December 1987 and January 1988.




LLOYD C. BREWER  
PRESIDENT

September 20, 1988

AFFADAVIT OF COSTS

I, Lloyd C. Brewer, President of Columbia Airborne Geophysical Services (1984) Ltd. certify that the airborne magnetic and VLF-EM surveys were flown in December 1987 and January 1988 and that they were flown at a cost of \$100.00/km, the total number of km being 45.2 to give a total cost of \$4,520.00/

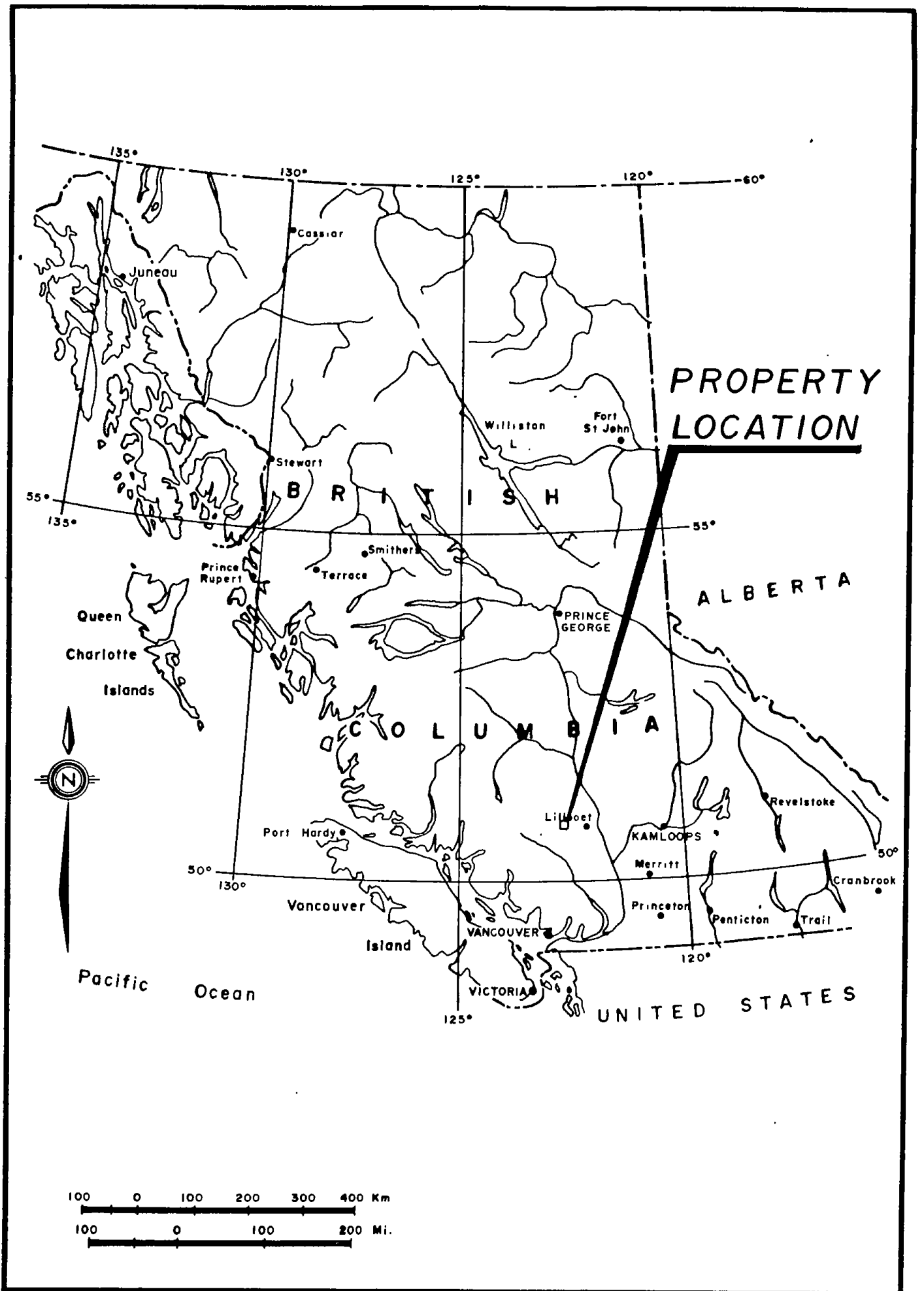
Respectfully submitted,

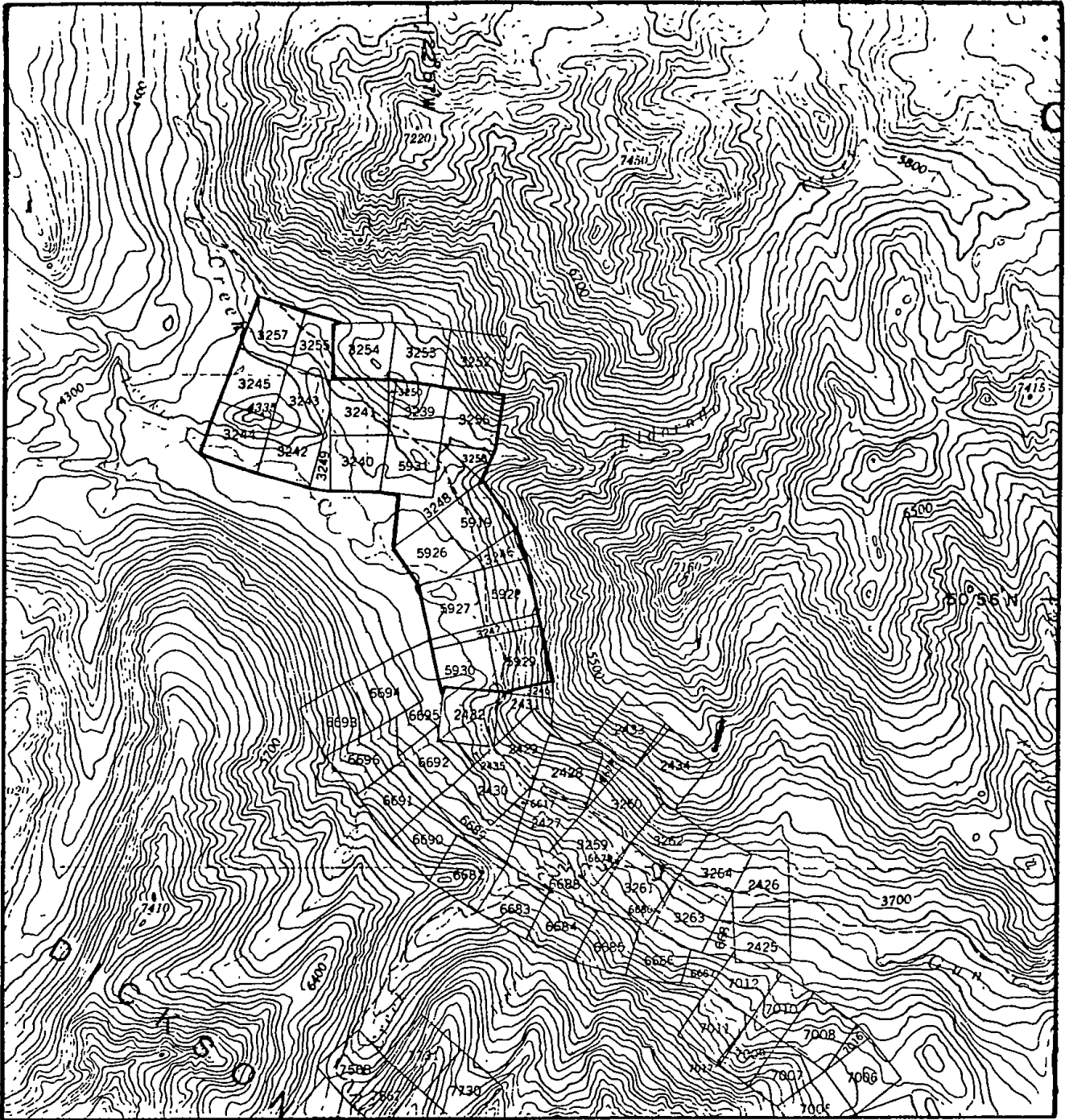


LLOYD C. BREWER  
PRESIDENT

COLUMBIA AIRBORNE GEOPHYSICAL  
SERVICES (1984) LTD.

September 20, 1988





<b>BERKLEY RESOURCES LTD.</b>
<b>ELDORADO CREEK CROWN-GRANT</b>
LILLOOET M.D. B.C.
<b>CLAIM MAP</b>
NTS. 92J/15W    1:50 000    MARCH/88    BY. KO

The magnetic lows of less than 2,100 gammas occurring in the south western sections of the property are reflecting an unknown rock unit.

There is however, more magnetic variances than directly correlates with mapped geology in the area. Therefore, it is reasonable to assume that the Hurley Formation sediments are in part underlain by either Pioneer Formation or Bridge River Group units.

Magnetic lows often occur along creek valleys and/or areas of low topography. The reasons for this are as follows:

1. Valleys almost always contain deeper overburden which means the detecting element is further from the bedrock causing the magnetic field.
2. If the survey is flown across the valley or gulley, then the detecting element is also further from the bedrock.
3. Gulleys and valleys are often caused by faults or shear zones which are often reflected by magnetic lows.

b) VLF-EM Survey

The major cause of VLF-EM anomalies, as a rule, are geologic structure such as fault, shear and breccia zones. It is therefore logical to interpret VLF-EM anomalies to likely be caused by these structural zones. Of course, sulphides may also be a causative source. But, in the writers experience, when VLF-EM anomalies correlate with sulphide mineralization, the anomalies are usually reflecting the structure associated with the mineralization, rather than the mineralization itself.

There is some variation in intensity from one VLF-EM anomaly to the next. This is not only due to the conductivity of a causative source, but also the direction it strikes relative to the direction to the transmitter. In other words, those conductors lying close to the same direction as the direction of the transmitter can be picked up easier than those lying at a greater angle. Depending upon its conductivity, a conductor may not be picked up at all if it is at too great an angle.

A number of VLF-EM conductors (or anomalies) occur throughout the survey area. These have been labeled. There are a total of 4 main conductive zones with numerous single line anomalies. The zones are labeled on Figure 3 using letters 'a' to 'd' respectively.

Conductor 'c' is drawn with dashed lines. This occurs simply because the conductor was not picked up on all the flight lines. In other words, whenever there is a space within the line marking the axis of a conductor is where a flight line did not respond to the conductor.

As mentioned above, and VLF-EM conductor is indicative of geological structure. However, the longer conductors are much more indicative. Three of the conductors within this survey have axis lengths varying from 1,500 to 2,300 meters. As previously mentioned, any parts of these anomalies could be reflecting mineralization that is associated with geological structure.

Conductor 'a' is a strong anomaly occurring in a topographical "saddle" within the western edge of the property. It has a north strike length of 1,600 meters. It is most likely reflecting a fault or shear zone within the volcanics of the Pioneer Formation.

Conductor 'b' has a northerly strike length of over 500 meters located in the northern edge of the survey. This anomaly is most likely reflecting

either a fault or shear zone which is associated with the contact between the Pioneer Formation volcanics and the Hurley Formation sediments.

Conductor 'c' is a medium strength anomaly located in the central portion of the survey area. It has a northerly strike with a discontinuous strike length of 1,500 meters. This conductor occurs on the contact between the volcanics and sediments of the Pioneer and Hurley Formations.

Conductor 'd' is found on the eastern edge of the survey area. It has a north/south strike and an open length of over 2,300 meters. This conductor correlates closely with creek valleys which are more often than not reflecting geologically weak points. (ie: faults and/or shears)

Of the four above described conductors, conductor 'a' is felt to have the greatest exploration potential as it occurs within an area of relatively intense magnetic change within an area of shearing and has a strong intensity.

There are also some single line anomalies within the property, any of which could easily be reflecting conductors associated with mineralization. For each anomaly, the strike of the causative source is unknown.

#### LINEATIONS

Lineal trends considered to be indicative of geological structure have been drawn on Map 3 taking into account:

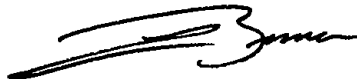
- i) Magnetic lows which are often caused by the magnetite within the rocks being altered by geological structure processes.
- ii) VLF-EM anomalies which are more often than not reflecting structure.

- iii) Topographic depressions such as creek valley which are usually caused by structure.

Several lineations that are indicative of faults and contacts have been mapped across the property striking in different directions. Some or parts of the lineations correlate directly with known lithologic contacts and/or faults.

The lineations cross each other on the property in different areas. Structure is often important for the emplacement of mineralizing fluid especially where lineations intersect. Thus these areas may have greater exploration interest.

Respectfully submitted,



---

LLOYD C. BREWER  
PRESIDENT


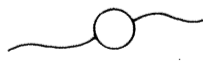

COLUMBIA AIRBORNE GEOPHYSICAL  
SERVICE (1984) LTD.

September 20, 1988





**LEGEND**

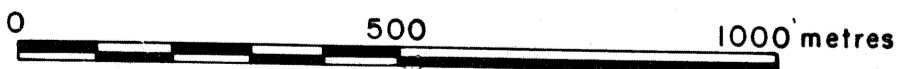
-  PROPERTY BOUNDARY
-  LEGAL CORNER POST
-  FLIGHT LINES - WITH FIDUCIAL MARKERS
-  100 gamma CONTOURS
-  500 gamma CONTOURS
-  MAGNETIC DEPRESSION

NOTE: MAGNETIC BASE = 54,600 gammas

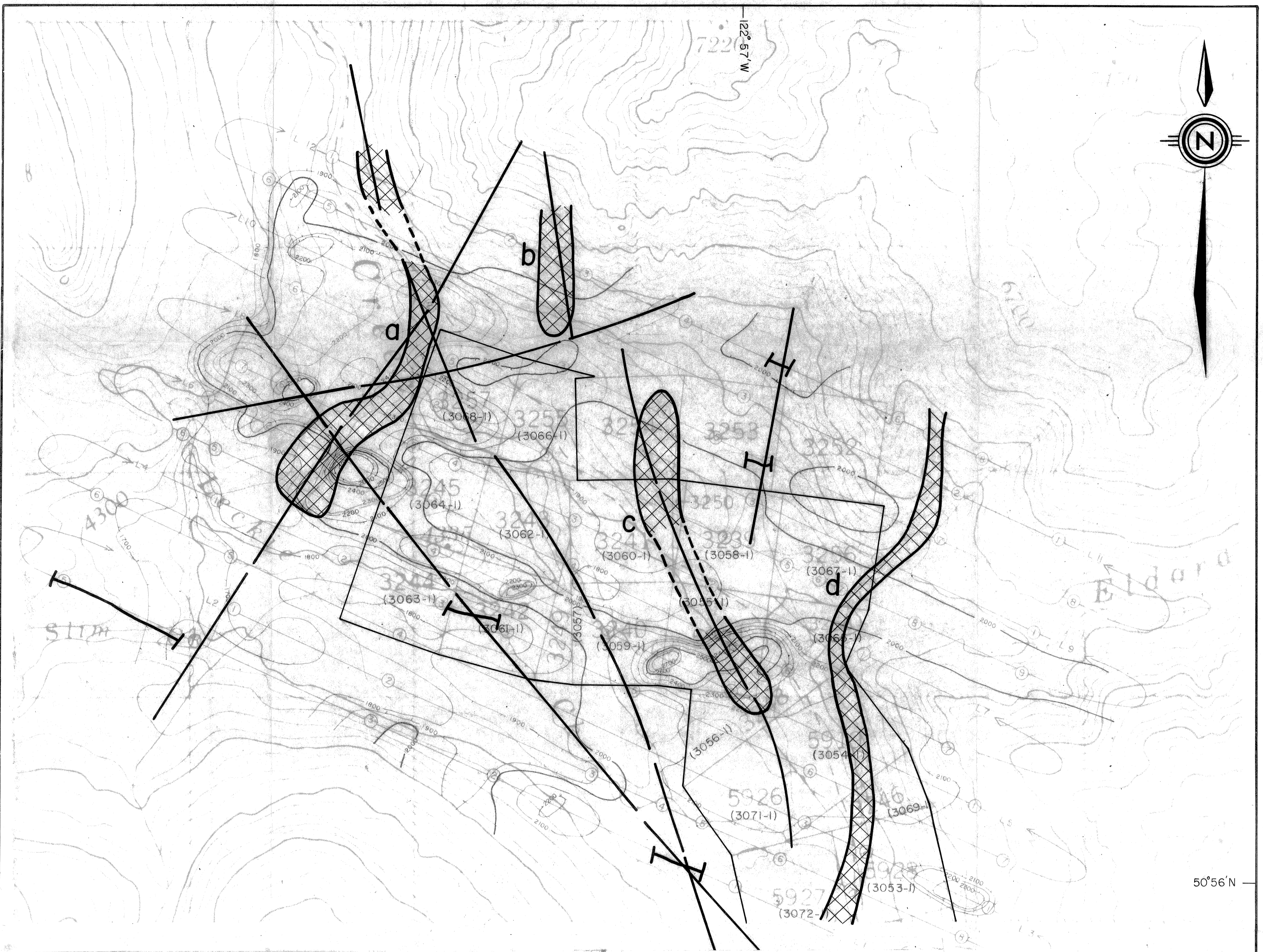
**A.R. 18031**

FIG. 3













BERKLEY RESOURCES LTD.
ELDORADO CREEK CROWN GRANT
LILLOOET M.D. B.C.
AIRBORNE SURVEY MAGNETOMETER CONTOURS
SCALE: 1:10 000    NTS: 92 J/15 W    DATE: DEC. /88 KC.



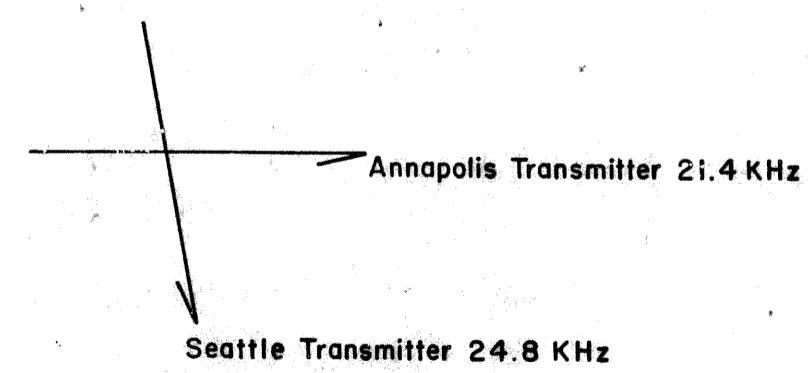
SURVEY CARRIED OUT BY: COLUMBIA AIRBORNE GEOPHYSICAL SERVICES (1984) LTD.



**LEGEND**

-  PROPERTY BOUNDARY
  -  LEGAL CORNER POST
  -  FLIGHT LINES-WITH FIDUCIAL MARKERS
  -  VLF-EM SINGLE LINE CONDUCTOR
  -  MAGNETIC ANOMALY (reference to text)
  -  VLF CONDUCTOR (reference to text)
  -  GEOLOGICAL BOUNDARIES AS DEFINED BY AEROMAGNETICS
  -  LINEATION PRODUCED FROM MAGNETIC VLF-EM RESULTS. (suggesting geological structure)
  -  VLF-EM CONDUCTIVE ZONE
  -  100 gamma CONTOURS
  -  500 gamma CONTOURS
  -  MAGNETIC DEPRESSION
- NOTE: MAGNETIC BASE = 54,600 gammas

VLF-EM TRANSMITTER DIRECTION



0 500 1000 metres

SURVEY CARRIED OUT BY: COLUMBIA AIRBORNE GEOPHYSICAL SERVICES (1984) LTD.

**A.R. 18031**

FIG. 4

BERKLEY RESOURCES LTD.
ELDORADO CREEK CROWN GRANT
LILLOOET M.D. B.C.
AIRBORNE SURVEY VLF-EM ANOMALIES
SCALE: 1:10 000 NTS: 92J/15W DATE: DEC. /88 K.C.