

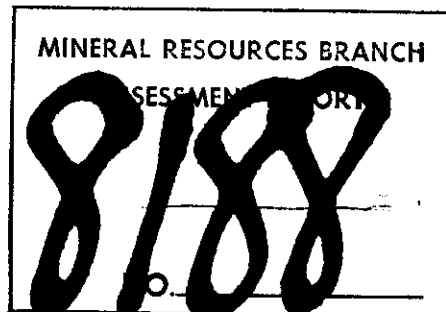
GEOLOGICAL AND GEOPHYSICAL REPORT  
ON THE  
LAKEVIEW CLAIM GROUP  
OSOYOOS M. D.  
OSOYOOS, BRITISH COLUMBIA  
FOR

RIDEAU RESOURCES CORPORATION  
VANCOUVER, BRITISH COLUMBIA

BY  
Tom Rolston  
and  
Gordon Richmond  
May-June, 1980

June 16, 1980

Columbia Geophysical Services Ltd.  
W.G. Timmins Exploration and  
Development Ltd.



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SUMMARY

Magnetometer and VLF-EM surveys and geologic mapping were done over portions of ~~seven~~<sup>six</sup> mineral claims known as the Lakeview group, located near Osoyoos, B.C. Some gold production was obtained from the property in past years, and considerable underground development completed. A disseminated copper-moly showing exists on the Gem claim. Assays of chip and grab samples indicate potentially economic values and geophysical surveys delineate several promising targets for further exploration. It is recommended that further exploration work be done, consisting of detailed geophysics, underground mapping and sampling, and if results warrant it, diamond drilling.

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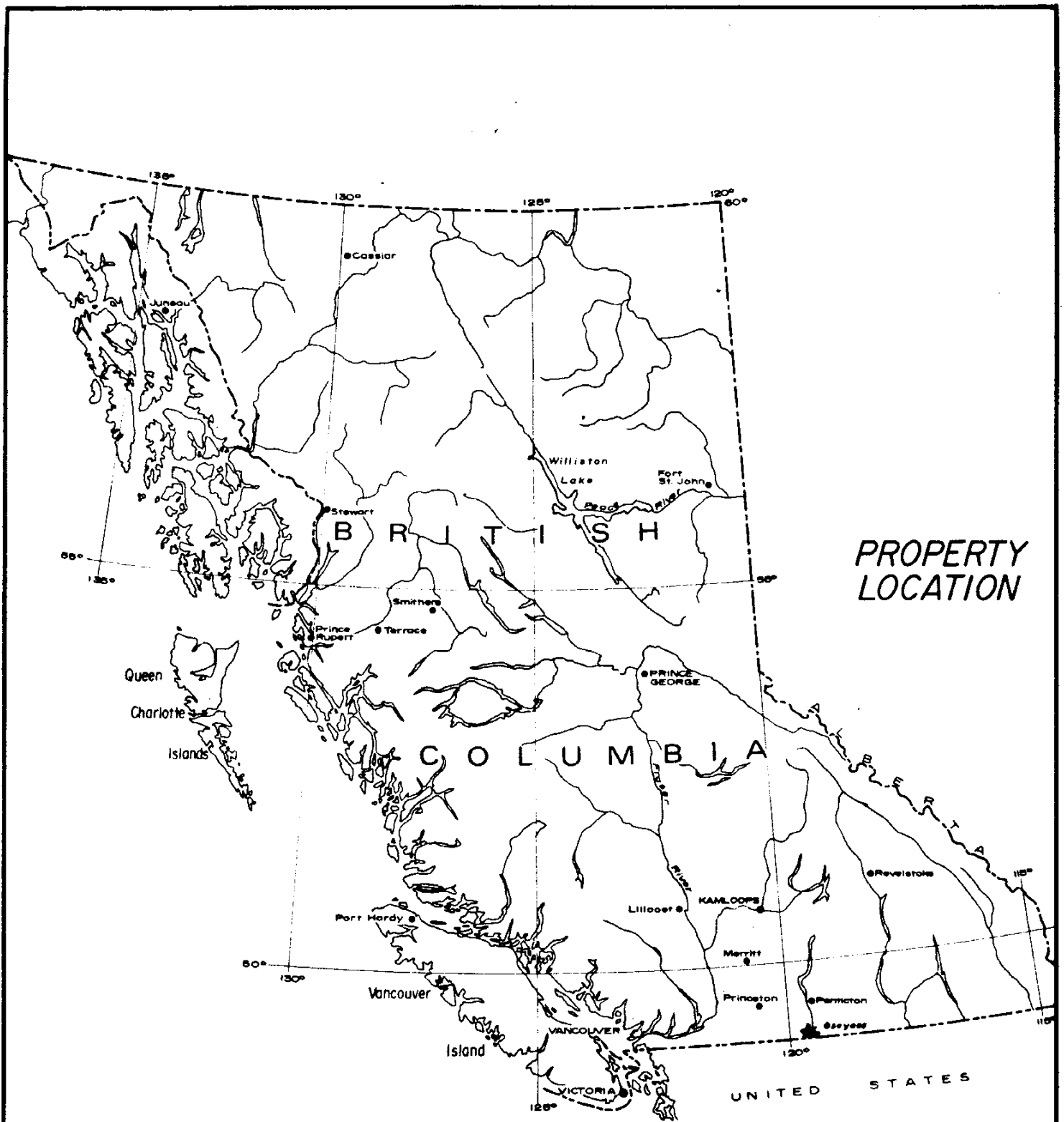
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INTRODUCTION

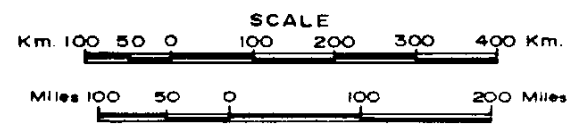
A visit to the Osoyoos area was made May 24th-26th by the writer, accompanied by Mr. T. Rolston and Mr. J. Radovich. In addition, Mr. A. Kroeker was present on the property on the morning of the 25th of May.

The purpose of this visit was to make a preliminary assessment of the mineral potential of the Rideau Resources property in view of present-day metal prices, and to map geologic features in order to aid interpretation of the geophysical survey being conducted concurrently. Mr. P. Burjoski provided valuable assistance in the task of geologic mapping.

A ground geophysical survey consisting of magnetometer and VLF-electromagnetic surveys was carried out over the Lakeview claim group during May 22nd to 26th 1980 by Columbia Geophysical Services Ltd., Burnaby, B.C. for Rideau Resources Corporation, Vancouver, B.C.



*PROPERTY  
LOCATION*



PROPERTY

The property consists of ~~seven~~<sup>SIX</sup> reverted crown-granted mineral claims as listed below:

Claim Name	Lot		Expiry Date
	Number	Record Number	
Lakeview	1899	760(6)	June 25, 1980
California	1907	761(6)	June 25, 1980
Ianto	3555S	762(6)	June 25, 1980
Treasury	3556S	763(6)	June 26, 1980
Gem	3311S	763(6)	June 25, 1980
Bullseye Fr.	1591	764(6)	Aug. 16, 1980

LOCATION AND ACCESS

Approximate Coordinates: 49°08'N, 119°30'W

The property is located on the east slope of Kruger Mountain situated on the west side of Osoyoos Lake and about 2 km north of the International Boundary.

The eastern edge of the California claim is easily reached by the paved road serving the Osoyoos public golf course. The Gem claim and a portion of the Treasury claim are reached by a good dirt road connecting with the paved grid roads of the orchard area lying to the east of the golf course and sewage treatment plant. Access to the Lakeview claim is by way of a dirt road which leaves the paved road several hundred meters south of the golf club.

The portion of the road leading to the Lakeview workings is partially washed out and is practical only for four-wheel-drive vehicles. A small amount of bulldozer or grader work would make these roads passable for passenger cars and light trucks.

#### PHYSIOGRAPHY

The majority of the property lies on a steeply sloping mountainside that is dissected by a number of small gullies. Rock outcrops form a number of knolls and hillocks, but a large part of the property is covered by glacial drift or unconsolidated lake sediments. A large part of the Ianto claim is occupied by a golf course, and the majority of the California claim is covered by drift or sandy soil which has



been, in places, plowed.

#### WATER SUPPLY AND VEGETATION

The area is quite arid, with few trees, mainly pine. Sagebrush, small cacti, grass and shrubs are common. Cottonwood trees and other water-loving plants are found along water-courses.

There are some small gullies with lush vegetation, but no surface water was seen at the time of this visit. Ground water seepage from the lower workings of the Lakeview claim has been piped into a stock trough by a local rancher, and overflow from this is quickly absorbed by the soil. It is likely that diamond drilling or any mining activity would require the trucking or pumping in of water.

#### HISTORY AND PREVIOUS DEVELOPMENT

The following information was obtained from Donald Tully's report of January 19, 1980, and sources referred to by him.

"Gold was discovered in the Osoyoos area near the International Boundary around the year 1894. One of the

original claim locators at the time of the discovery was John C. Fisher. Development of the Lakeview claim was by George Nodin in 1901. In 1908 this claim, with other adjacent lands, was optioned to the Granby Consolidated Mining and Smelting Company. Granby did considerable development work both on surface and underground. The Dividend-Lakeview Consolidated Gold Mining Company acquired the property in 1911 and shipped eight tons of gold ore to the smelter at Grand Forks. This ore was said to average \$17.14 in gold per ton. In 1913 another eight tons was also shipped and according to the record, the average value was \$24.34 in gold. Present prices for the precious metal would indicate a value many times greater.

The property remained relatively dormant until 1932 when the Northern Syndicate, Limited, of Calgary took control of the property, which included the Lakeview claim, and did several hundred feet of underground development. Osoyoos Mines, Limited was formed in 1933 to operate the property and erected a 10-ton mill, later expanded to 50-ton in 1934 when work on the ground was reported to have stopped."

In 1935, W.E. Cockfield of the Geological Survey of Canada gave a thorough description of underground development on

the Lakeview claim in Memoir 179, which is stated as follows:

"Lakeview Claim: The lakeview workings are situated about 400 feet from the eastern edge, and 600 feet from the northern edge, of the claim and consist of a main adit 166 feet long running nearly south, with a number of crosscuts. At a point in the adit 112 feet from the portal, drifts have been run both east and west along the direction of the ore. The west drift is 120 feet long. The east drift is 100 feet long with a crosscut 50 feet in length, near its end. Near the end of the drift a short raise has been put up. At the intersection of the main adit and the west drift a winze has been sunk and in the west drift, at 100 feet from its entrance, a second winze has been sunk. The depth of these winzes is not known to the writer. They are presumed to be connected with the lower workings, but this is uncertain. From the first of the two winzes, and on the same level with the main adit, a crosscut has been driven in a southwesterly direction for 130 feet. At the end of the main adit a short westerly drift has been driven to connect with this southwesterly crosscut and this drift has also been continued a short distance to the east: from this drift a raise has been put through to the surface approximately 100 feet above; and from the end of the main adit a short northwesterly crosscut makes a second connection with the southwesterly

crosscut from the first winze.

From a lower level on the hill, and about 300 feet distant from these upper workings, a second adit has been driven in a westerly direction to get under these workings and, apparently, to hit the ore at a lower horizon. This was caved and inaccessible, and it consequently could not be determined whether this adit connected with the upper workings or not, and whether it was successful in cutting the ore at this level. In the report of the British Columbia Minister of Mines for 1913 reference is made to the lower workings, presumably this adit, and the report states 'all ... the drifts and crosscuts from this tunnel appear to be under the ore-body. The ore-body may have a downward extension but so far it has not been discovered.'

The ore-body as exposed in the workings is irregular in shape and speaking generally the values in gold are low. The former operators estimated that these workings put in sight between 40,000 and 50,000 tons of ore with an average value of \$4 a ton in copper and gold (British Columbia Minister of Mines, Annual Report 1913, page 173). Mineralization appears in many of the headings, but the sampling of the workings was incomplete at the time of the writer's visit and

has been confined chiefly to the main adit and to the east and west drifts therefrom. The mineralization is pyrrhotite, chalcopyrite, and magnetite with some arsenopyrite in a gangue of altered limestone and greenstone wall impregnated with lime silicates. In the west drive an ore shoot is indicated by the sampling on the north wall. Here there is heavy sulphide mineralization in a highly crushed and sheared zone in the country rock. This zone is about 60 feet long and sampling over widths of about 3 to 6 feet indicates gold values ranging from 0.09 to 0.66 ounce. A short stretch of 20 feet shows values well above the average of this section. On the south wall of the drift the values are lower.

In the east drive there is considerable sulphide mineralization in the walls of the drift. Sampling has shown gold values ranging from \$1 to \$4 a ton over widths of from 3 to 6 feet, calculated at \$30 an ounce.

In the main adit, across a width of 40 feet immediately to the north of the east-west drift, low values in gold are shown.

A fairly large body of ore is, therefore, indicated and much more information with regard to it will probably be made

available as the remainder of the workings are cleaned out and rendered accessible. It is judged that the ore-body here lies fairly flat, following the rocks in which it occurs, and that the ore deposition is probably controlled to some extent by the structure of the beds in which the ore occurs. Outcrops of rock are rather scarce in the vicinity of the Lakeview workings; but with all the mine workings accessible, it will probably be possible to work out the detailed structure. The occurrence of one shoot of ore with good gold values justifies further exploration of this ore-body in the hopes that others will be found.

Mineralization was also encountered on the Treasury claim during the course of assessment work, but this occurrence was not examined."

N.D. McKechnie, writing in the B.C. Minister of Mines Annual Report for the year 1963, described work then being done on the Gem and Dividend-Lakeview groups:

"On the Gem Crown-granted claim, disseminated molybdenite occurs in a granite dyke striking south 85 degrees west and dipping irregularly near vertical. The wallrocks are Osoyoos diorite. The dyke is from 3 to 10 feet wide and is exposed

for a length of about 40 feet. The dyke pinches out eastward, and a second dyke is exposed for a few feet of length in echelon to the left. A third dyke is exposed in the south wall of the first, striking north and dipping 50 degrees west.

In 1963 an option was taken by Sheep Creek Mines Limited, 490 Baker Street, Nelson, on the Gem group and also on the Dividend-Lakeview group, owned by D.P. Simpson, of Osoyoos. Exploration was conducted on the combined property under the direction of D.M. Edwards. Magnetometer and self-potential surveys were carried out, and 15 holes totally 2,404 feet were drilled".

There is no record of any more recent work on the claims, and it appears that little or no production was done in the Lakeview workings subsequent to Cockfield's visit. The writer saw only what appeared to be a small stope near the intersection of the main adit and the east-west drift.

#### GENERAL GEOLOGY

Two major lithologic units underlie the area of the claim group, the Kobau (also referred to Anarchist) group of

metasediments of probable Cache Creek age, and a diorite-granodiorite intrusive complex assigned to the Osoyoos batholith.

The Kobau group consists of quartzites, limestones, greenstone volcanics and various schistose rocks. Highly altered diorite, often somewhat gneissic, occurs in the area, and it is believed to be part of the Kobau group or at least contemporary. It is probably an intrusive equivalent of the greenstone volcanics. Limestone and quartzite tend to occur as small lenses and pods which are not traceable for any great distance.

The Osoyoos batholith is a major intrusive complex in the area, and generally ranges from diorite to granodiorite in composition, and usually exhibits a milder degree of alteration than the diorite of the Kobau group. The age of Osoyoos intrusion is given as Jura-Cretaceous. The Osoyoos rocks are intruded by younger granites where exposed on the Lakeview claims.



GEOLOGY OF THE PROPERTY

A variety of rock types representing both the Kobau group and the Osoyoos batholith are exposed on the Lakeview claim group. Altered diorite, greenstone, chlorite schist, limestone, quartzite, granodiorite and granite have been mapped on the property. In general, the rocks of the Kobau group occupy the west and south of the property, and those of the Osoyoos batholith, the north and east. A number of zones of skarn type alteration appear to be spatially related to the contact of the intrusives, and within these skarn zones occur a number of deposits of magnetite, pyrrhotite and pyrite. Some of these deposits carry values in copper or precious metals.

MINERALIZATION

Mineral deposits on the Lakeview property are of the contact metamorphic or skarn type for the most part, with the molybdenum-copper showing on the Gem claim being disseminated sulfides in intrusive rock. The most abundant minerals in the contact-metamorphic showings on the property are magnetite, pyrite, and pyrrhotite, with minor amounts of chalcopyrite and arsenopyrite. Malachite and azurite occur

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in surface exposures.

Where vein structures were observed on the surface, they appeared to consist of a number of stringers of quartz and/or calcite in a matrix of highly sheared and chloritized wall-rock which carried sulfide mineralization. Underground examination of the workings on the Lakeview and Treasury claims was limited due to a lack of light and a general coating of mud and secondary minerals on the walls.

A total of five grab samples and two chip samples were taken on the Lakeview claims. Three of the grab samples were intended to be representative of presumably high-grade material on dumps associated with the Lakeview workings. One grab sample was taken from the dump associated with the adit on the Treasury claim, and one was taken from a pile of mineralized material from a trench on the Gem claim.

The two chip samples taken were across vein structures exposed in open cuts, one on the Treasury claim, and one on the Lakeview. Both open cuts were above the principal adits. These samples and assay results are tabulated on pages 16 and 17 of this report. Sample sites are marked on the geologic map.

Gold values ranged from .005 oz/ton to 0.22 oz/ton. The material from the dump at the shaft on the Lakeview assayed .005 oz/ton Au. According to Cockfield's description, this shaft is actually a raise that was put up from below so it is likely that the bulk of any ore-grade material would be found on the dump from the main adit. The material from the trench on the Gem claim assayed .006 oz/ton in gold; which is not surprising as this represents copper-moly mineralization disseminated in a dike.

The two chip samples taken from the Lakeview and Treasury claims ran .008 oz. and 0.10 oz., respectively. The vein sampled on the Lakeview claim is about 70 cm wide and consists of two narrow stringers of calcite separated by pyritized rock, striking 150 degrees and dipping 85 degrees west. Some chalcopyrite was noted, and some pyrite extends into the hanging wall. It would appear that pyrite is probably not the gold-bearing mineral. The vein sampled on the Treasury claim is about 60 cm wide containing magnetite and pyrrhotite, as well as pyrite.

The high gold value, .22 oz/ton, was obtained from sulfides picked off the high-grade portion of the dump at the main Lakeview adit. Pyrite, magnetite, pyrrhotite, and possibly

arsenopyrite are present.

Copper values range from .09% to 1.36% with a value of around .3% appearing to be typical for vein material in the Lakeview-Treasury area. The highest silver value is .31 oz/ton.

The material sampled on the Gem claim ran 1.36% copper, .26 oz silver, .006 oz gold and .51% MoS<sub>2</sub>. The copper and moly values are very attractive if sufficient tonnage could be developed.

ASSAY TABULATION

<u>Sample #</u>	<u>Location</u>	<u>Au</u> oz/ton	<u>Ag</u> oz/ton	<u>Cu</u> %	<u>MoS<sub>2</sub></u> %
26878	Sel grab, Gem trench dump.	.006	.26	1.36	.51
26789	Treasury vein, 60 cm chip from open cut	.10	.06	.22	--

ASSAY TABULATION (Cont.)

<u>Sample #</u>	<u>Location</u>	<u>Au</u> oz/ton	<u>Ag</u> oz/ton	<u>Cu</u> %	<u>MoS<sub>2</sub></u> %
26880	Sel grab, dump Lakeview shaft.	.005	.06	.32	--
26881	Sel grab, lower adit Lakeview.	.016	.06	.35	--
26882	Sel grab sulfides Treasury adit.	.014	.23	.33	--
26883	80 cm chip vein on Lakeview open cut	.008	.06	.09	--
26884	Sel grab sulfides main Lakeview adit.	.22	.31	1.28	--

GEOPHYSICAL SURVEY PROCEDURE

A survey grid was established over the property at 50 metre stations both N-S and E-W, marked with the appropriate grid

co-ordinates on red flagging tape. The grid control is tied to the base line originating at the claim post and iron pin, S.E. corner of Lakeview claim L1899 and S.W. corner of Bullseye Fr.L1591.

Magnetometer readings were taken by a two man geophysical crew using a Sabre model G110 portable vertical component fluxgate magnetometer on the established 50 metre grid stations. It was not necessary to correct the readings for diurnal variation. The magnetic data were plotted on a map scale 1:2500 (4 cm = 100 m) and contoured at 100 gamma intervals. (See map sheet 1 and 3). A total of 312 magnetometer readings were taken on this survey by magnetometer operator and crew chief J. Radovich, with geophysical assistant K. Rolston.

VLF-EM readings were taken by a two man geophysical crew using a Sabre model 70 VLF-EM receiver tuned to the transmitter located at Arlington (Seattle) Washington, U.S.A. transmitting at 18.6 Khz. The survey was conducted over the 50 metre stations. The VLF-EM data were filtered using the Fraser Filter method to eliminate topographic effects and to convert the results to contourable data. The data were plotted on a map scale 1:2500 (4 cm = 100 m) and contoured at

+5 degree intervals. (See map sheets 1 and 2.) EM operator was P. Burjoski with geophysical assistant J. Radovich. A total of 315 readings were taken on this survey.

RESULTS OF MAGNETOMETER SURVEY

The magnetic contoured data, map sheet 3, show 8 magnetic high anomalies in the order of 1500 to 3000 gammas and a background intensity of 1000 to 1500 gammas with magnetic lows below 1000 gammas. The 8 anomalies are labeled A to H. Anomaly 'A' is located on the S.E. boundary of the California claim. This anomaly is open on the south end and therefore there is not enough information to properly analyse this anomaly.

Anomaly 'B' 2000 gamma and 'C' 3000 gamma are located in the S.W. of the California claim and appear to reflect a geological feature. Due to the dipole effect on anomaly 'C', it is most likely caused by an increased concentration of magnetite. There is a magnetic depression between 'B' and 'C' which could indicate a minor NE-SW fault.

Anomaly 'D' 2200 gamma, 'E' 1800 gamma, 'F' 2000 gamma and 'H' 2500 gamma are located on the Lakeview claim and appear

to be caused by magnetite. The numerous highs encircled by magnetic depressions show a magnetic pattern indicating much cross faulting. To back up this analysis, old reports indicate that underground development and exploration encountered faulting and cross faulting.

Anomaly 'G' 2000 gamma is located on the N.W. boundary of Ianto claim. This anomaly is open on the east due to the boundary of the golf course. The anomaly lies on strike with a vein observed in outcrop and is likely caused by a higher concentration of magnetite.

#### INTERPRETATION OF RESULTS

The magnetic survey has delineated numerous high intensity anomalies which appear to be caused by magnetite which is recognized by a dipole effect. The most evident magnetic features are the magnetic depressions which have continuous lineation throughout the property indicating major faulting as plotted on map sheet 3. The most prominent fault indicated by magnetics, runs N-S through the Gem, Treasury and Bullseye claims which follows a natural topographic low relief along the foot of the steep east slope of Kruger mountain.



RESULTS OF VLF-EM SURVEY

The VLF-EM contoured data show nine E.M. conductors or conductive zones which are labeled 'A' to 'I'. Anomaly 'A' shows as a N.E.-S.W. conductive zone with three anomalous peaks correlating with magnetic high anomalies 'C', 'D' and 'F' interpreted as being caused by magnetite and is on the S.E. flank of possible S.W.-N.E. faulting and a N.W.-S.E. cross faulting. The dip angle of anomaly 'A' is too broad to indicate vein type structure, therefore could be interpreted as indicating a geologic contact.

Anomaly 'B' correlates with magnetic features showing cross faulting which projects through a previously mined zone.

Anomaly 'C' in the order of +12 degrees indicates a conductive zone over a magnetic feature (depression) indicating cross faulting of three major faults. This zone is a possible exploration target to locate economic mineralization and could be a target for further investigation.

Anomalies 'D' and 'E' are high order anomalies, +20 degrees and +34 degrees respectively. These anomalies correlate

with magnetic depressions indicating cross faulting. Due to the sharp dip angle of anomalies 'D' and 'E' in a cross faulted zone and visual occurrence of molybdenite and chalcopyrite mineralization in this area, this anomalous zone is a priority target for further investigation.

Anomaly 'F' is located in the N.E.-S.W. conductive zone running through the Gem, Treasury and Lakeview claims. This is a low order anomaly of +5 degrees. Anomaly 'G' is a high order anomaly +35 degrees located on the S.W. flank of magnetic anomaly 'G'. This EM anomaly is open on the N.E. on the golf course and therefore data is too limited for proper interpretation.

Anomaly 'H' +15 degrees located on the S.W. of California claim has a N.E.-S.W. strike and is open at both ends due to the golf course and property boundary on the S.W. Data is too limited for proper interpretation.

Anomaly 'I' is a high order anomaly + 40 degrees located on S.E. California claim striking N.E.-S.W. Due to the sharp dip angle of this anomaly it should be investigated further. The anomaly is located on low lying ground covered with overburden and would have to be investigated by a drill hole

or possibly a bulldozer trench.

#### INTERPRETATION OF RESULTS

The VLF-EM survey outlined numerous conductors and conductive zones of which four are priority targets for further exploration for economic mineralization. Most of the EM anomalies correlate with the interpreted magnetic features obtained by the magnetometer survey.

#### CORRELATION OF GEOPHYSICAL DATA

The ground magnetic survey performed by Columbia Geophysical Services Ltd. revealed a number of magnetic lineations which were interpreted as faults. A number of these relate quite well to topographic features or geologic data and have been included on the geologic map. It would appear that these are all normal faults. The direction or magnitude of movement is not known, due to a lack of marker beds and vertical exposure. Faulting may have acted as control for the deposition of ore minerals. In Cockfield's report of 1935, reference is made to good gold values being reported from a crushed (brecciated) zone on the north wall of a cross-cut in the Lakeview workings. The area around L3W-25N is worth noting as it

represents an area where three interpreted faults intersect coincident with magnetite mineralization and skarn-type alteration. This area coincides as well with a small EM anomaly (C).

The results of ground EM survey tend to be somewhat contradictory. The area directly under the Lakeview mine workings shows no EM anomaly, but high order anomalies lie to the N.W. (B) and S.E. (A). A high order anomaly (G) lies close to the old adit on the Treasury claim, and appears to be due to the vein which that adit explored. An anomalous zone (D) appears to coincide fairly closely with the mineralization noted on the Gem claim, and a small high order anomaly (I) lies in the southern half of the California claim. This anomaly coincides with the observed occurrences of a number of small veins and pods of quartz in outcrop.

CONCLUSIONS AND RECOMMENDATIONS

A number of mineralized zones occur on properties of the Lakeview claim group. Underground exploration on the Lakeview claim indicated gold values reported at 0.5 oz/ton or more. Material taken from the dump assayed at 0.22 oz/ton. Results of current assays indicate potentially economic gold mineralization on the Lakeview and Treasury claims, and attractive copper-molybdenum values on the Gem claim. In the case of the Gem, as mineralization is disseminated in a dike, and not to any extent in wall-rock, it could be economic if the dike can be shown to have sufficient continuity and adequate grades to justify underground mining. This could only be determined by diamond drilling. Drilling was done on the property in 1963 but core or logs are not currently available.

Results of magnetic and electromagnetic surveys indicate veins and/or shear zones that may be favourable hosts for mineralization. EM Anomalies 'D', 'E', 'I' are priority targets. Anomaly 'G' is also a priority target, as it is directly on strike with a vein which was sampled and assayed at 0.1 oz/ton Gold. Due to the 50 meter spacing of this survey, the target zones should be detailed with E.M. at a line

spacing of 25 m and 10 m stations. This would give detailed data on near-surface mineralization and possibly vein-type structures. This should be carried out before an exploration drilling program is initiated.

It is recommended that an effort be made to acquire diamond drill core or logs made when the property was drilled in 1963. It is also recommended that the underground workings on the Lakeview and Treasury claims be cleaned out, mapped and systematically sampled in order to determine if mineable ore is present. Proper random sampling of the dumps on the property would be in order, as one or two of these might constitute stockpiles of marketable ore.

Subject to results of a detailed E.M. survey, a number of short diamond drill holes in the order of 300 feet should be considered to test promising anomalies or to check continuity of mineralization observed underground.

Sample nos. 26879 and 26884 are being assayed for arsenic to determine whether gold is associated with arsenopyrite. If this proves to be the case, a program of arsenic geochem could prove to be of value.

It is recommended that adjacent ground, if open, be staked,  
as some of the promising targets are on claim boundaries.

Respectfully submitted

*Gordon Richmond*

G.Richmond B.Sc. (Geol)

W.G.Timmings Exploration & Development Ltd.



T.Rolston, Project Geophysicist.

Columbia Geophysical Services Ltd.

June 16, 1980.

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CERTIFICATE

I Gordon S. Richmond, employed by W.G. Timmins Exploration and Development Ltd., with offices at 201,909 5 Avenue S.W. Calgary Alberta do hereby certify that:

1. I am a graduate of the university of British Columbia, holding the degree of B.Sc. in Geology.
2. I have been employed in my present position for one year.
3. I have no interest direct or indirect in the property or securities of Rideau Resources Corporation Ltd. nor do I expect to receive any such interest.
4. This report is based on a study of government reports, private reports, and a geologic field program conducted by myself on Rideau claims from May 24, 1980 to May 26, 1980.

Dated at Calgary, Alberta the 16th day of June, 1980.

*Gordon Richmond*

Gordon Richmond, B.Sc.

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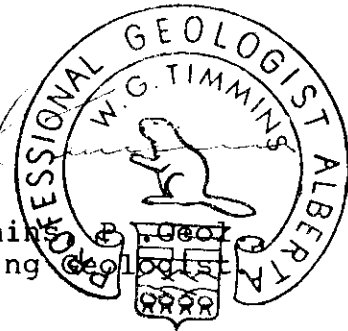
CERTIFICATE

I , WILLIAM G.TIMMINS, maintaining offices at 201-909  
5 Avenue S.W., calgary Alberta do hereby certify that:

1. I am a geologist having been practising my profession for seventeen years.
2. I am a graduate of the Provincial Institute of Mining, Haileybury, Ontario, and have attended Michigan Technological University, Houghton, Michigan.
3. I am a member in good standing of the Association of Professional Engineers of British Columbia, and of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
4. I have no interest direct or indirect in the property or securities of Rideau Resources Corporation Ltd., nor do I expect to receive any such interest.
5. This report is based on a study of government reports, private reports and a field geologic programme carried out by Mr. G. Richmond, B. Sc. Geology, during a visit to the property in May, 1980.  
Mr. Richmond is employed by W.G. Timmins Exploration & Development Ltd. and his work is well known to me.

Dated at Calgary, Alberta the 16th day of June, 1980.

*W.G.*  
W.G. Timmins  
Consulting



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## RESUME OF TECHNICAL AND FIELD EXPERIENCE

1. 11 years with the R.C.A.F. as Instrument and Electronic Technician with crew supervisory capacity in various electronic and instrumentation systems.
2. Two years with Kerr-Addison Mines Ltd. as Electronic Technician servicing, repairing and maintaining various types of geophysical instruments, with two seasons as Field Supervisor and Geophysical Instrument Operator in mining exploration, including airborne and ground geophysical surveys, geochemical surveys, geophysical and geochemical drafting and mapping.
3. 10 years with Geotronics Surveys Ltd. as Field Supervisor of geophysical and geochemical surveys and Instrument Operator of various geophysical instruments such as airborne and ground systems magnetometer, electromagnetic, gravity meter, self-potential meter, scintillometer and induced polarization.
4. The past 15 years contracting geophysical/geochemical surveys in close association with mining engineers for various mining companies.
5. President and Manager of Columbia Geophysical Services Ltd., geophysical instrument design, manufacture and distribution and airborne geophysical services.

Dated at Burnaby, British Columbia 1980.



Tom Rolston, Project Geophysicist,  
Columbia Geophysical Services Ltd.

REFERENCES

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Rideau Resources Corporation. Jan.1980.

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## APPENDIX I

### INSTRUMENTATION

A Sabre Model 110 fluxgate magnetometer manufactured by Sabre Electronics of Burnaby, B.C. was used for the magnetic survey. This instrument measures the vertical component of the terrestrial magnetic field by electronically measuring the degree of magnetic saturation in a vertically oriented coil of fine wire. The usual procedure involves reading the instrument at a 'check station' and then conducting a traverse. The instrument is then returned to the check station and a reading taken. Any difference between the two check station readings which may be due to instrument drift or diurnal magnetic variation is then divided amongst the traverse stations as a correction.

A VLF-EM receiver manufactured by Sabre Electronics of Burnaby, B.C. was used for the VLF-EM survey. This instrument is designed to measure the current induced, in a vertical coil, by the primary and secondary fields of the very low frequency electromagnetic field (VLF-EM) transmitted at 18.6 KHz from Seattle, Washington. This transmitter is primarily intended for communication with submerged submarines.

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In all electromagnetic prospecting, a transmitter produces an alternating magnetic field (primary) by a strong alternating current usually through a coil of wire. If a conductive mass such as a sulphide body is within this magnetic field, a secondary alternating current is induced within it, which in turn induces a secondary magnetic field that distorts the primary field. It is this distortion that the EM receiver measures. The VLF-EM uses a frequency range from 16 to 24 KHz (Kc), whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can pick up bodies of a much lower conductivity and therefore is more susceptible to clay beds, electrolyte-filled faults or shear zones and porous horizons, graphite, carbonaceous sediments, lithological contacts, as well as sulphide bodies of too low a conductivity for other EM methods to pick up. Consequently, the VLF-EM has additional uses in mapping structure and in picking up sulphide bodies of too low conductivity for conventional EM methods and too small for induced polarization (in places it can be used instead of IP). However, its susceptibility to lower conductive bodies results in a number of anomalies, many of them difficult to explain and, thus, VLF-EM preferably should not be interpreted without a good geological knowledge of the property and/or other geophysical and geochemical surveys.

To: Exploration & Development Ltd.

REPORT NO. A20 - 542

PAGE No. 1

**BONDAR-CLEGG & COMPANY LTD.**

DATE: June 5, 1980

201 - 909 - 5th Avenue SW  
Calgary, Alberta

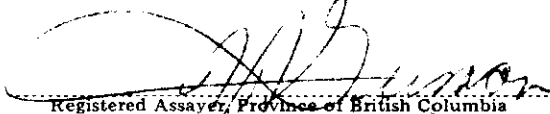
**CERTIFICATE OF ASSAY**

Samples submitted: May 29, 1980  
Results completed: June 5, 1980

*I hereby certify* that the following are the results of assays made by us upon the herein described ore samples.

MARKED	GOLD		SILVER		Cu	MoS <sub>2</sub>					
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent
26878	0.006		0.26		1.36	0.51					
26879	0.10		0.06		0.22	-					
26880	0.005		0.06		0.32	-					
26881	0.016		0.06		0.35	-					
26882	0.014		0.23		0.33	-					
26883	0.008		0.06		0.09	-					
26884	0.22		0.31		1.28	-					

NOTE:  
Rejects retained three weeks  
Pulps retained three months  
unless otherwise arranged.

  
Registered Assayer, Province of British Columbia

To: Exploration & Development Ltd.

REPORT NO. A20 - 621

PAGE No. 1

**BONDAR-CLEGG & COMPANY LTD.**

DATE: June 13, 1980

201 - 909 - 5th Avenue SW  
Calgary, Alberta T2P 0N8

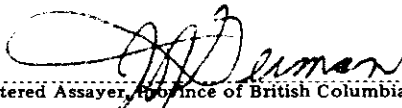
**CERTIFICATE OF ASSAY**

Samples submitted: June 10, 1980  
Results completed: June 13, 1980

**I hereby certify** that the following are the results of assays made by us upon the herein described pulp samples.

MARKED	GOLD		SILVER		As							
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
26879					0.01							
26884					0.01							

NOTE:  
Rejects retained three weeks  
Pulps retained three months  
unless otherwise arranged.

  
Registered Assayer, Province of British Columbia

COST BREAKDOWN

May 21 to June 21, 1980

Ground geophysical survey and geological mapping;

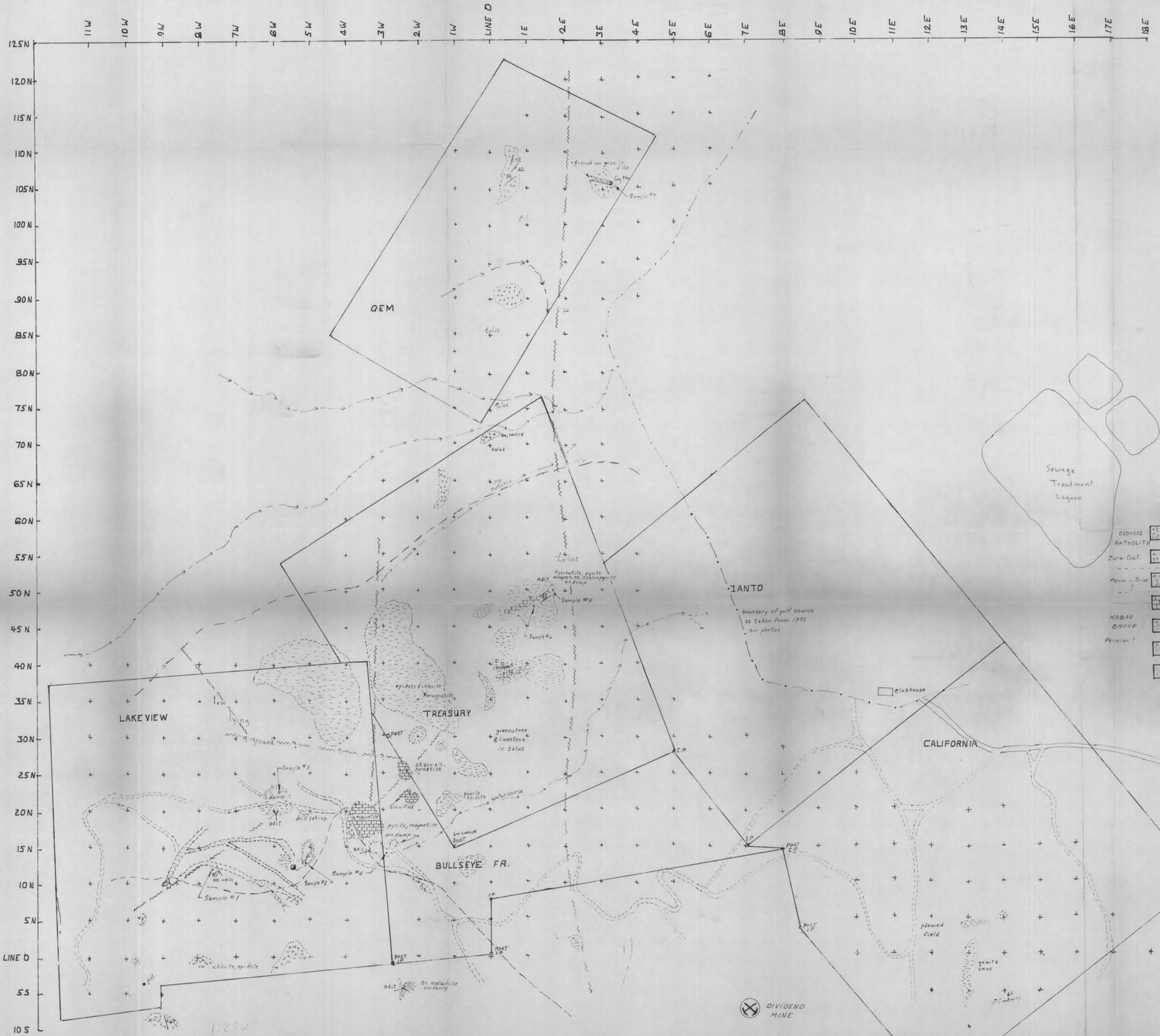
Rideau Resources Corp.

Lakeview, California, Gem, Ianto, Treasury and  
Bullseye Fr. (Lakeview Group)

1) Establish claim boundaries	\$ 500.00
2) 20 line km magnetometer and EM survey @ \$200.00 per line km	4,000.00
3) Geological mapping and report	<u>1,000.00</u>
Total	<u><u>\$ 5,500.00</u></u>





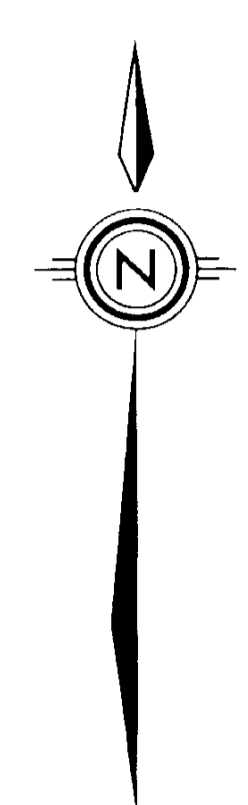
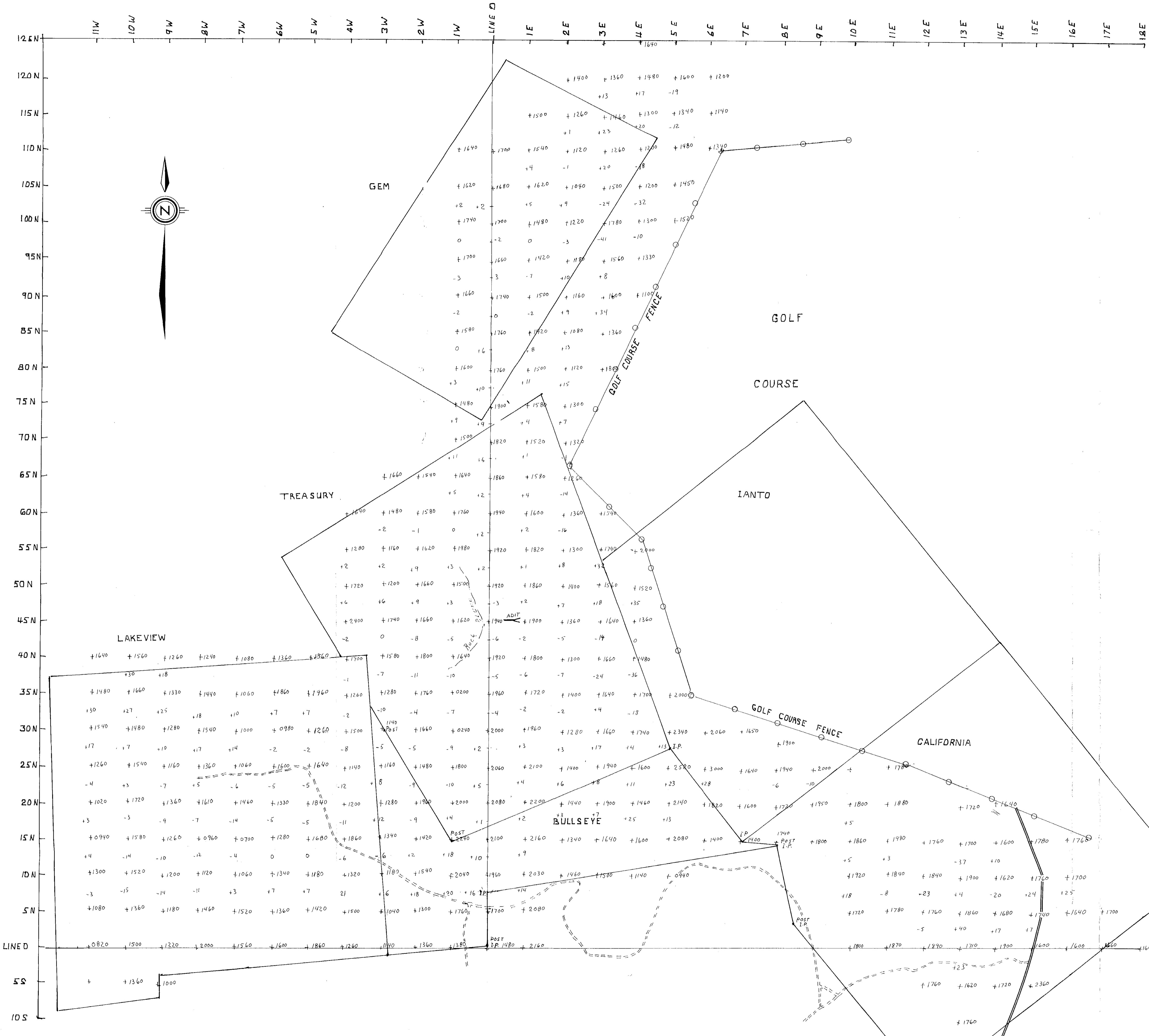


**LEGEND**

OSOYOODS BATHOLITH	Granite dikes	Adit	open
Jura-Cret.	Granodiorite or Diorite	Adit	closed
Perm-Trias?	Altered diorite	Shaft	█
KOBAU GROUP	Limestone	Limit of Outcrop	-----
Permian?	Greenstone volcanics	Geologic Contact	-----
	Schist	Fault (Interpreted)	~~~~~
	Quartzite	Road or Open Cut	-----
		Paved Road	=====
		Dip & Strike on bedding	40°
		Dip & Strike on joint	50°
		Dip & Strike on vein	40°

MINERAL RESOURCES BRANCH  
 SESSION NO.  
**8/88**  
 NO.

RIDEAU RESOURCES CORPORATION  
 LAKEVIEW CLAIM GROUP, OSOYOODS M.D.  
 OSOYOODS, B.C.  
 GEOLOGIC SKETCH MAP  
 Claim lines and grid by Columbia Geophysical Ltd.  
 SCALE: 1:2500 DRAWN BY: - G.A.  
 W.G. TIMMINS EXPLORATION AND DEVELOPMENT CO. LTD. JUNE 1980



MINERAL RESOURCES BRANCH  
 8188  
 NO.

RIDEAU RESOURCES CORPORATION  
 LAKEVIEW CLAIM GROUP, OSOYDOS M.D.  
 OSOYDOS B.C.

MAGNETOMETER and VLF ELECTROMAGNETIC  
Type of survey

scale 1:2500  
4 cm = 100 m

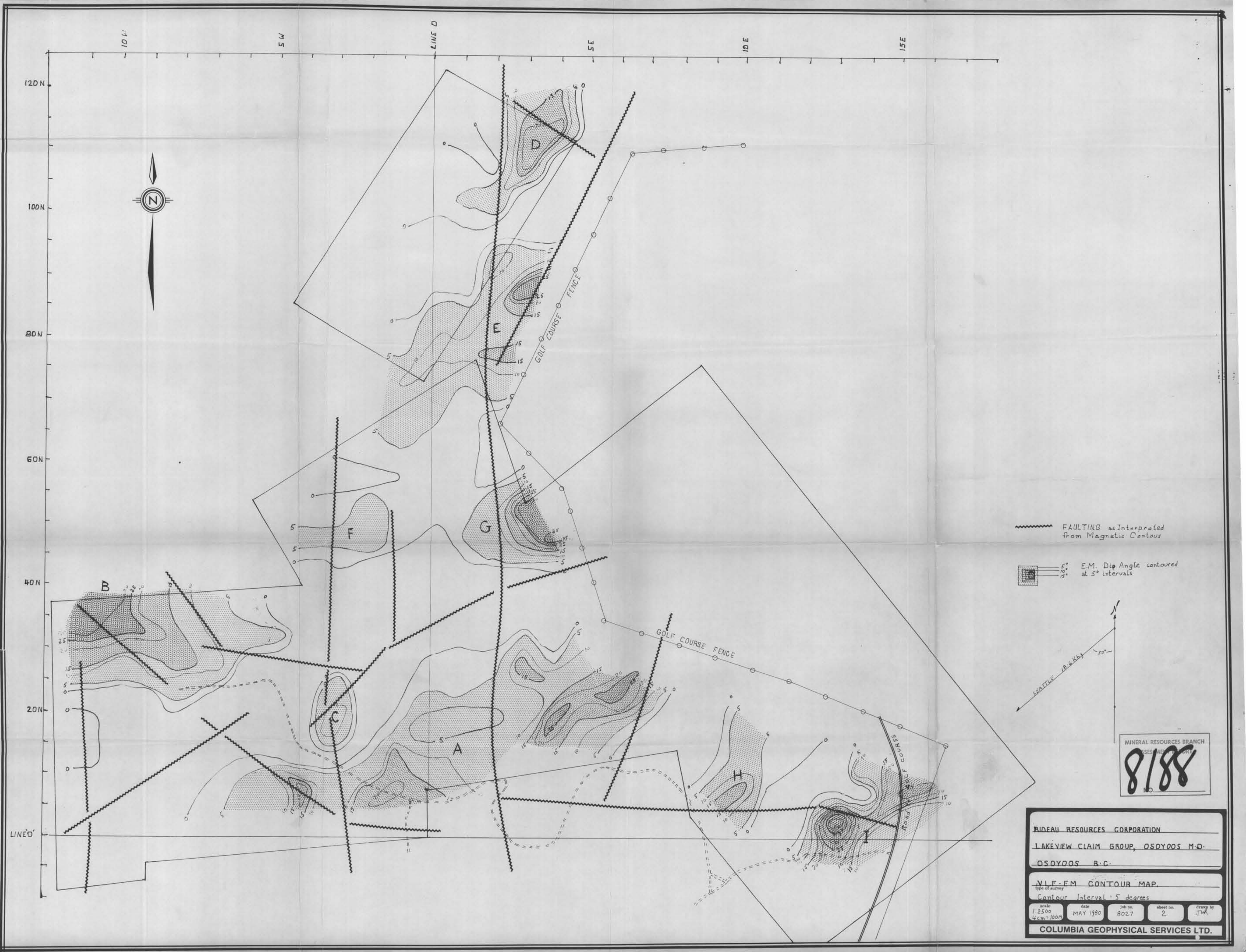
date MAY 1980



job no. 8027

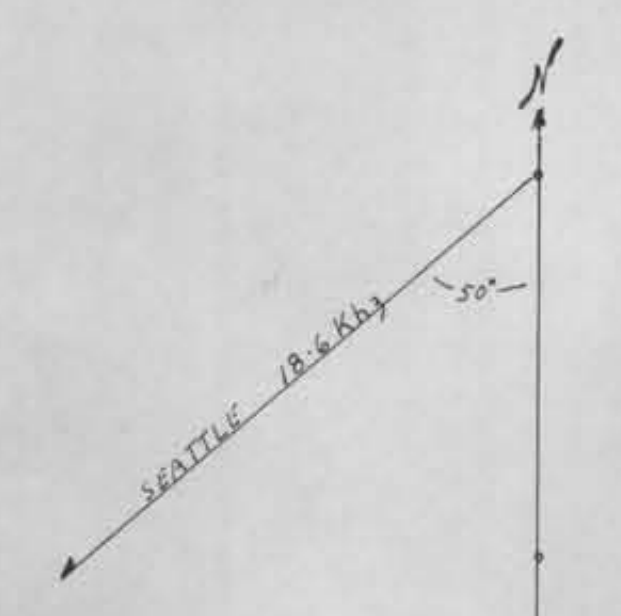
sheet no. 1

drawn by TWK

COLUMBIA GEOPHYSICAL SERVICES LTD.



 FAULTING as interpreted from Magnetic Contours  
 E.M. Dip Angle contoured at 5° intervals  
 5°  
 10°  
 15°



MINERAL RESOURCES BRANCH  
 BRITISH COLUMBIA  
**8188**

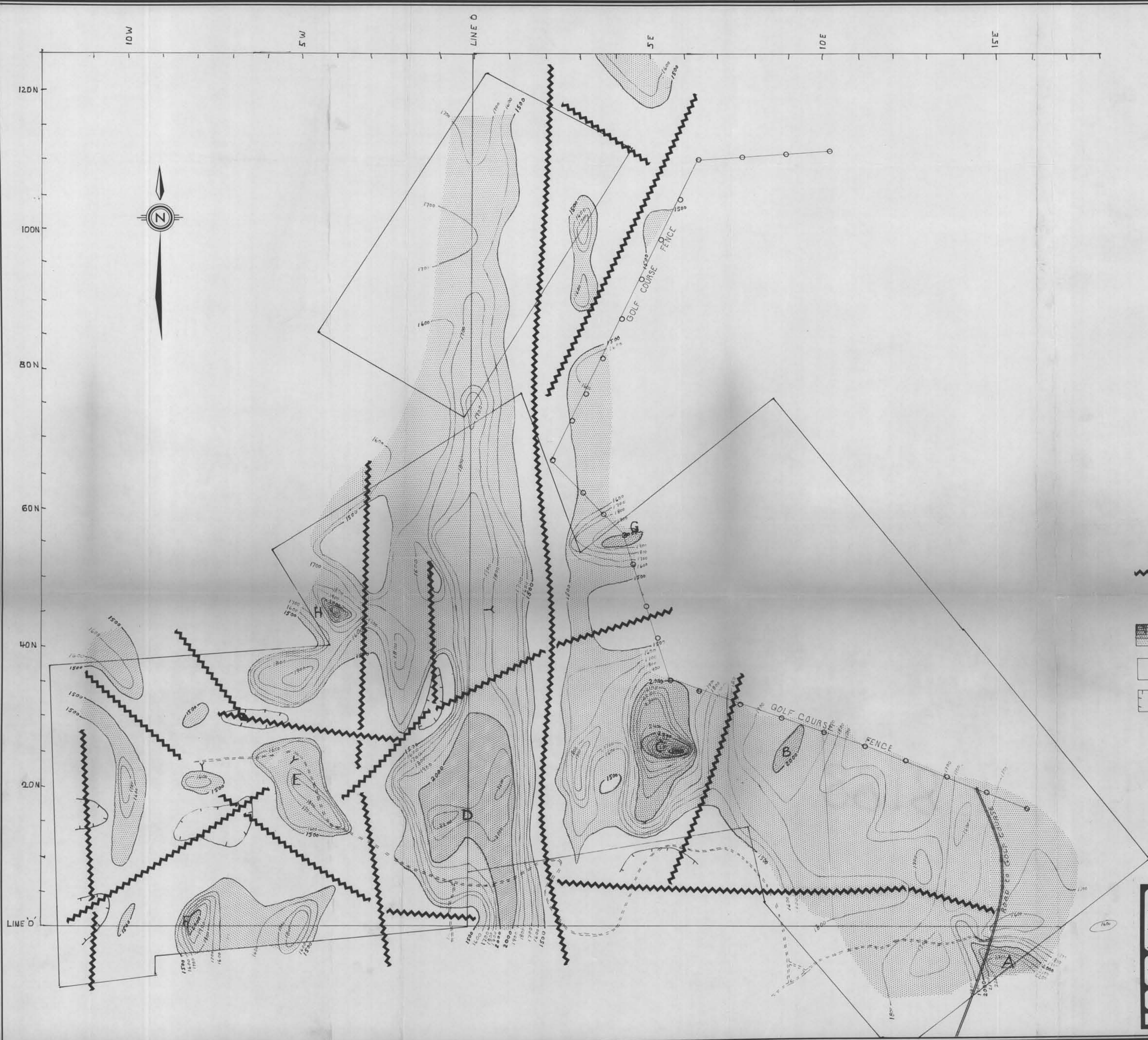
**BIDEAU RESOURCES CORPORATION**  
 LAKEVIEW CLAIM GROUP, OSOYDOS M.D.  
 OSOYDOS B.C.

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**VLF-EM CONTOUR MAP.**  
 Type of survey  
 Contour Interval: 5 degrees

scale 1:2500 4cm = 100m	date MAY 1980	job no. 8027	sheet no. 2	drawn by JVA
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**COLUMBIA GEOPHYSICAL SERVICES LTD.**



FAULTING as interpreted from Magnetic Contours

- 3000 gamma
- 2500 gamma
- 2000 gamma
- 1500 gamma
- 1000 to 1500 gamma
- Below 1000 gamma  
Magnetic Low

8188

RIDEAU RESOURCES CORPORATION			
LAKEVIEW CLAIM GROUP, OSOYOOS M.D.			
OSOYOOS B.C.			
ISOMAGNETIC MAP			
Contour Interval: 100 gamma			
scale	date	job no.	sheet no.
1:2500	MAY 1980	6027	3
4cm=100m			drawn by TWR.
COLUMBIA GEOPHYSICAL SERVICES LTD.			