

2319

GEOPHYSICAL REPORT ON

93K/12

BL Group

of

ROYAL CANADIAN VENTURES LTD.

at

BUTTERFIELD LAKE, B.C.

54° 125° N.W.

by

N.B. VOLLO, P.Eng.

March 20th, 1970.

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Maps Enclosed:

#1 Magnetic Survey 1" = 400'
#2 EM-16 Survey 1" = 400'

<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT</p> <p>NO. 2319 MAP.....</p>
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SUMMARY

Approximately 30 miles of grid, electro-magnetic and magnetic surveys, were completed in February and March, 1970. A moderately strong VLF conductor was delineated in an area in which low grade copper mineralization was previously found. Mapping, trenching and a geochemical soil survey are recommended.

LOCATION & ACCESS

The group is located immediately west of Butterfield Lake, approximately 30 miles north of the town of Burns Lake. Butterfield Lake is suitable for all float aircraft, but the most convenient access is by helicopter from Burns Lake.

TOPOGRAPHY & CLIMATE

The group is fairly hilly, with elevations ranging from the 3300' at Butterfield Lake to 4600' in the central part. Rainfall and snowfall are moderate, with about three feet of snow on the ground in March. A moderately heavy growth of predominantly alpine fir and spruce is present, with considerable undergrowth. Devils Club is present in low areas.

CLAIMS

The Group consists of 59 claims as follows: -

BL 1 to 28	Record Nos.	70343 to 70370
BL 29 to 34	" "	82100 to 82105
BL 35 to 50	" "	Not yet available
BL 51 to 53 Frac.	" "	82106 to 82108
BL 54 to 59	" "	Not yet available.

All claims are held by Royal Canadian Ventures Ltd., and are in the Omineca Mining Division.

HISTORY & PREVIOUS WORK

The group was staked to cover a strong aeromagnetic anomaly located by Federal - Provincial Surveys released in April, 1969. (Map 5313G) In the course of checking the aeromagnetic anomaly, which appears to be due to a band of ultra-basic rock, low grade but extensive copper mineralization was observed to the west. No evidence of previous mineral claims or work has been noted. The area was mapped in 1936, 1937 by J.E. Armstrong, and a map on the scale of 1" = 4 miles was published as part of GSC Memoir 252.

FIELD WORK

A camp was established in the central part of the group by helicopter. Four men blazed and chained approximately 30 miles

of grid and completed electro-magnetic and magnetic surveys between February 9th and March 9th, 1970.

MAGNETIC SURVEY

Readings were taken at 100' intervals along lines 400' apart using a Sharpe MF-1 Fluxgate magnetometer. The instrument was arbitrarily set at 750 gammas at Station 56 + 00 N on the base line. Substations were established from this at all line intersections, traverses were looped and correction made for diurnal variation.

The axis of the aeromagnetic high is in the extreme north-east part of the surveyed area, with closures to 6,000 gammas. The 2,000 gamma contour probably fairly closely marks the western limit of ultra-basic rocks, with which the aeromagnetic high is associated.

A series of sharp magnetic highs and lows trend north-westerly in the central part of the group, and correlate fairly closely with moderate to strong VLF-EM conductors.

ELECTRO-MAGNETIC SURVEY

Readings were taken at 100' intervals along lines 400' apart using a Ronka EM-16 Unit. Primary source was NPG, Jim Creek, Washington, whose field in this area is at approximately 245°. All readings were taken facing west. Vertical control was maintained with a Thommen Pocket Altimeter. In phase and quadrature readings are plotted as profiles, using a vertical scale of 1" = 50%, and are shown on the accompanying map (in pocket). Topography is also plotted in profile form on the same map and rough correction for slope can be made visually.

A series of moderate to strong conductors cross the surveyed area in a north westerly direction, They coincide with a marked topographic lineament, and with a series of sharp, narrow magnetic lows and highs. They are also within an area of widespread weak copper mineralization. Cross-overs are quite asymmetrical, and since the conductors strike nearly perpendicular to the NPG field, a moderate dip to the north east is suggested. Several parallel weak conductors are present, particularly over the extreme north and south-west portions of the surveyed area.

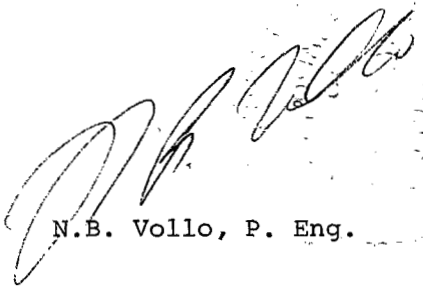
A weak to moderate north trending conductor, located in the west central part of the surveyed area, also coincides with a sharp topographic lineament and may mark a fault zone. It appears to

offset the north-westerly trending zone about 400'.

CONCLUSIONS

A conductive zone associated with anomalous magnetics has been delineated within an area of known disseminated copper mineralization. Further work is recommended as follows: -

1. The entire group should be geologically mapped and the north westerly conductors thoroughly prospected, by hand trenches or pits if necessary.
2. A geochemical soil survey should be carried out with samples at 200' intervals, closing to 100' intervals near the conductor zones. Contingent on results of steps 1 and 2, further work is recommended as follows:
3. Extend the grid 3,000' west and complete magnetic and electro-magnetic and soil surveys over it.
4. Check the most promising conductor zones with short drill holes.



N.B. Vollo, P. Eng.

March 20th, 1970.

AFFIDAVIT ON EXPENDITURES

PERSONNEL

N.B. Vollo, P. Eng. Supervision, interpretation and report, 3 days @ \$75.00 -----	\$235.00
M. Hjelt, Instrument Operator February 9th to March 7th, Chaining and magnetometer survey, 27 days @ \$45.00 -----	1,215.00
L. Loranger, Instrument Operator Chaining, February 9th to March 6th, 26 days @ \$45.00 -----	1,170.00
M. Fennell, Instrument Operator Chaining and EM-16 Survey, February 9th to March 7th, 27 days @ \$30.00 -----	810.00
Plotting, drafting, March 9th to 20th, 9 days @ \$30.00 -----	270.00
D. Cavanaugh, Assistant, Chaining, February 9th, to March 7th, 27 days @ \$30.00 -----	810.00
Alpine Helicopters Ltd., 6 hrs. 55 min. -----	1,037.50

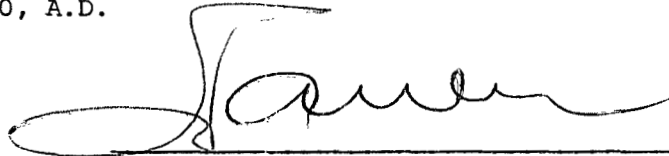
CAMP SUPPLIES

Groceries, etc. -----	427.37
Travel & Accommodation -----	158.80
Company Vehicles (2), Kamloops to Pendleton Bay, Return, 2,036 miles @ .12¢ -----	244.32
Total	<u>\$ 6,377.89</u>

I, Nels B. Vollo, of the City of Kamloops in the Province of British Columbia, make the above declaration, conscientiously believing it to be true and knowing it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.



Declared before me at the City of Kamloops, in the Province of British Columbia, this 10 day of April 1970, A.D.

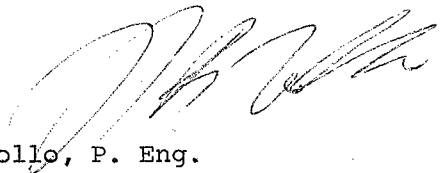


A commissioner for taking affidavits for British Columbia.

QUALIFICATIONS OF OPERATORS

Mauri Hjelt, is 29 years of age and completed Grade 12 at Pemberton, B.C. He graduated from the University of British Columbia in Physical Education 1965. He was employed for four years by Mining Corporation Ltd., as a prospector and has been employed for three years by Royal Canadian Ventures Ltd., as a prospector and geophysical operator. He has been carefully instructed in the operation of the Sharpe MF-1 Magnetometer by the undersigned, who knows his work to be carefully and reliably done.

Michael Fennell, is 20 years of age, has completed Grade 11 at Barriere, B.C. He has been employed by Royal Canadian Ventures for 6 months. He has been carefully instructed in the operation of the EM - 16 Electro-magnetic unit, and his work is known by the undersigned to be accurately and reliably done.



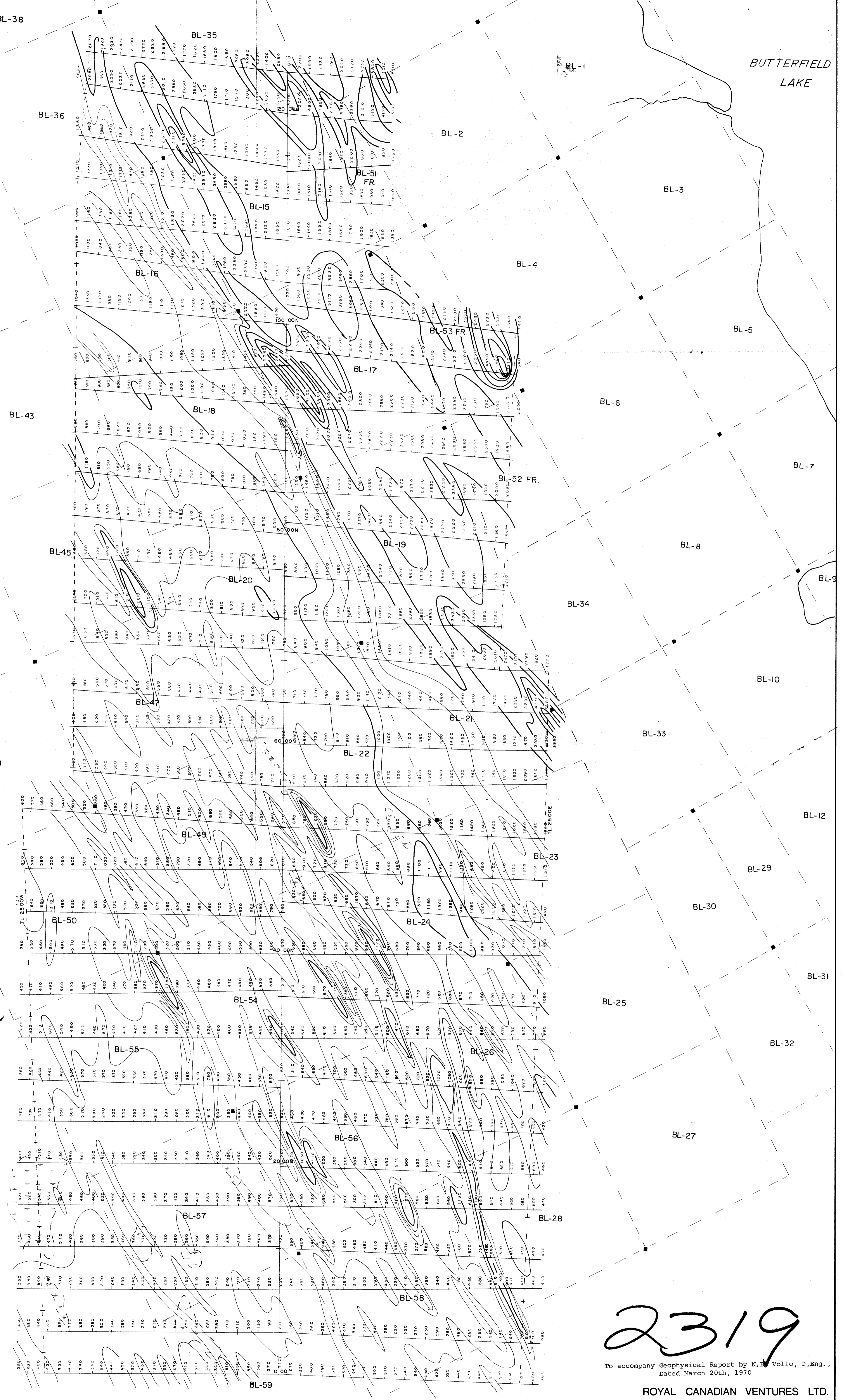
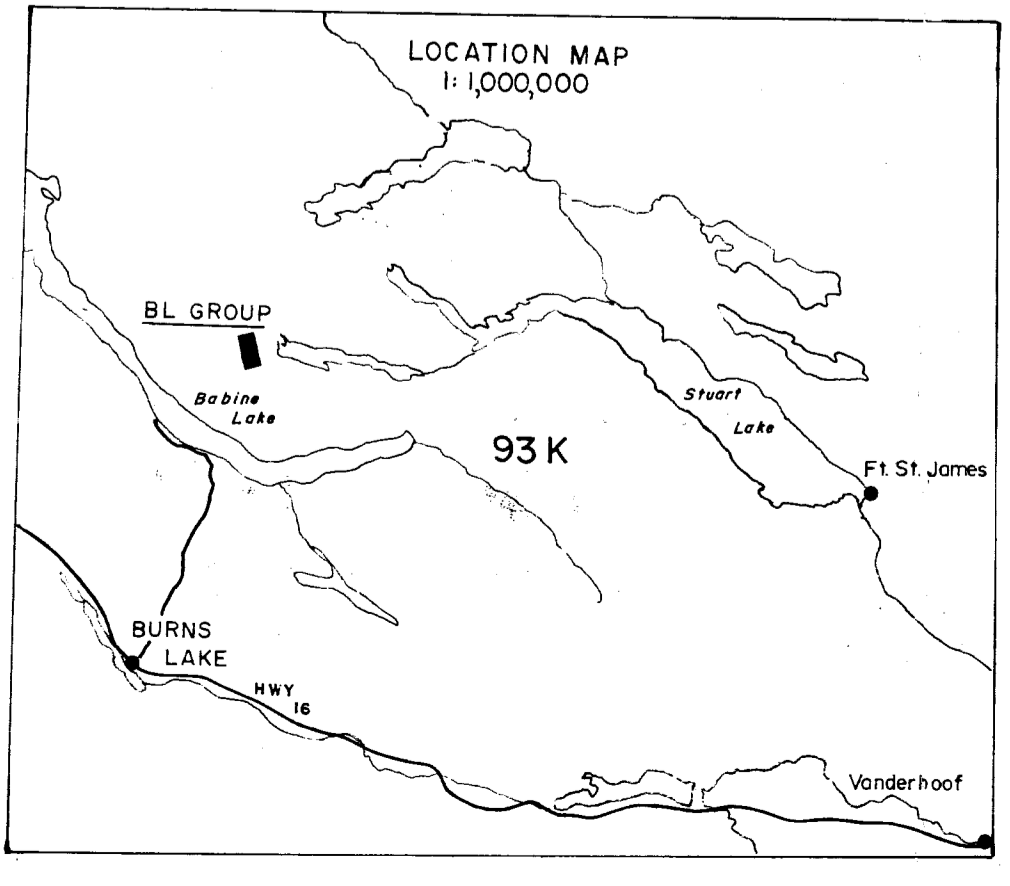
N.B. Vollo, P. Eng.

March 20th, 1970.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2319 MAP #1

LEGEND

Contour interval - 200, 1000 ft
Inst. - Searpe MF-1
Operator - M. Hjelt
Corrected for diurnal



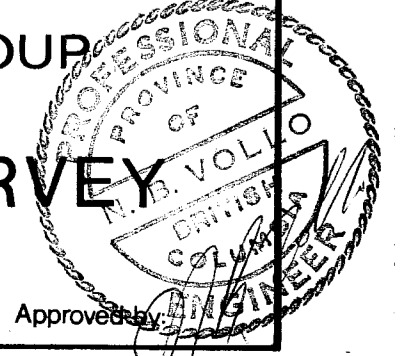
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To accompany Geophysical Report by N. H. Vollo, P. Eng.,
Dated March 20th, 1970

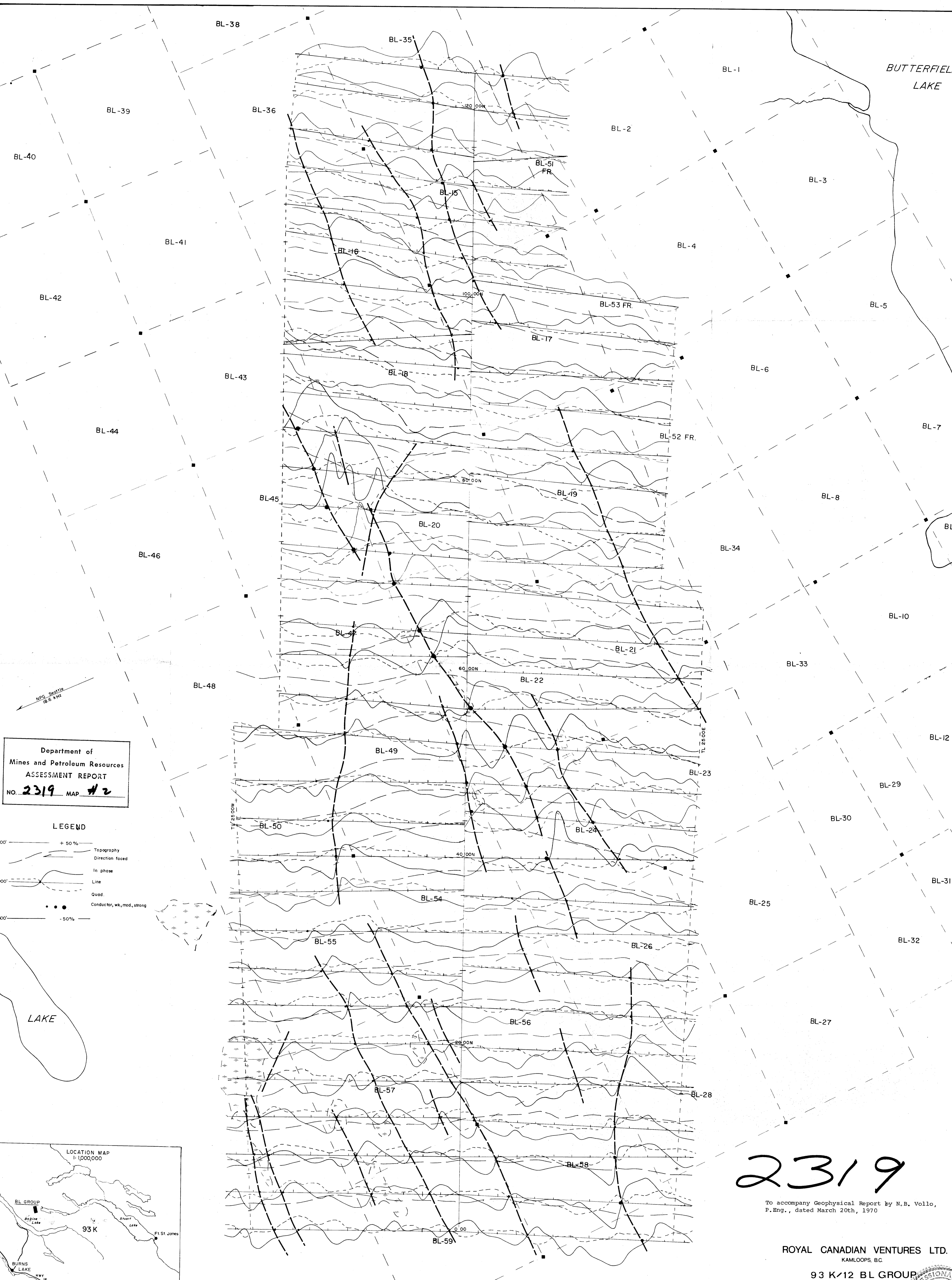
ROYAL CANADIAN VENTURES LTD.
KAMLOOPS, B.C.

93 K/12 BL GROUP
MAGNETIC SURVEY

Drawn by: Scale: 1"=400' Date: 15-3-70 Approved: [Signature]



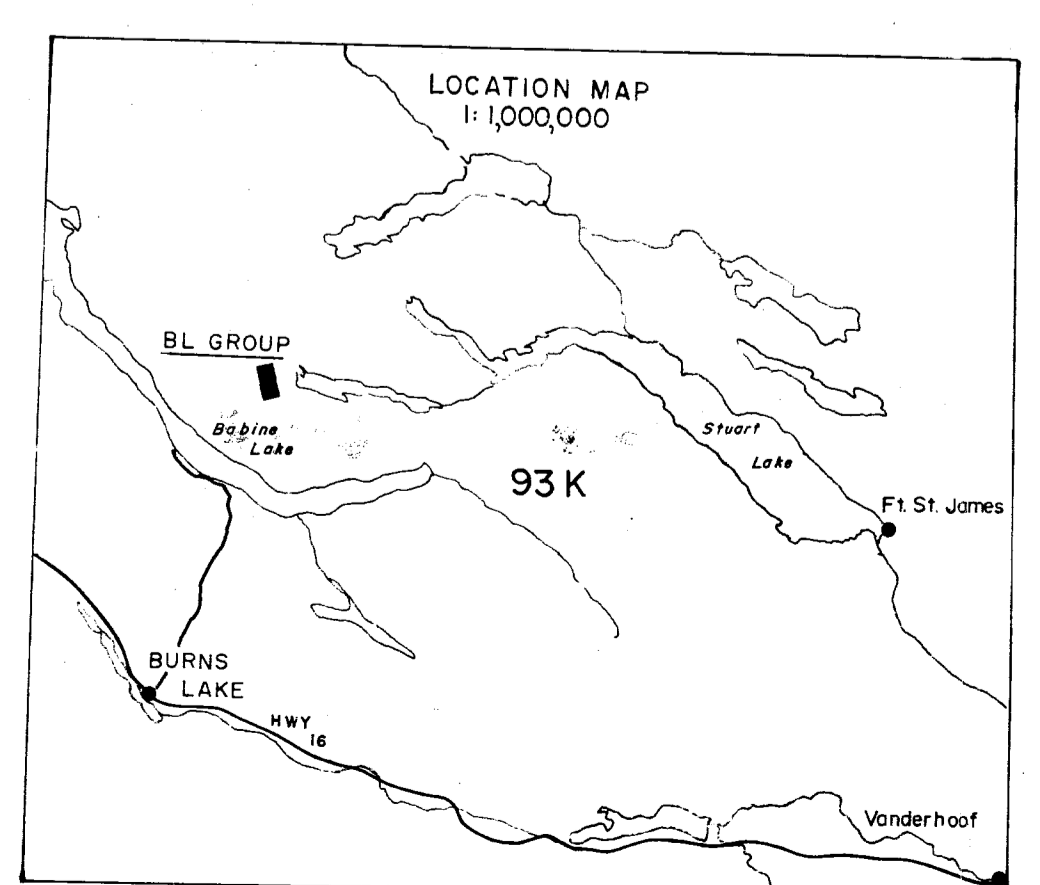
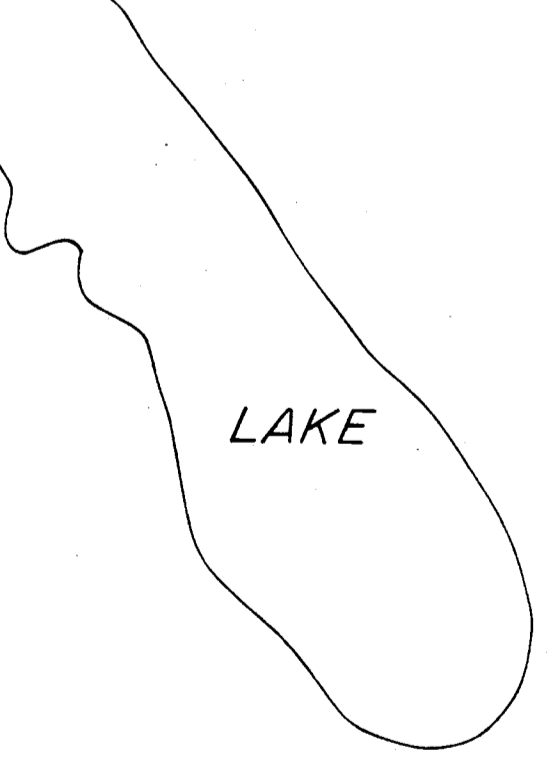
BUTTERFIELD LAKE



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ASSESSMENT REPORT
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LEGEND

- 4400' ——— + 50% Topography
- Direction faced
- 4000' ——— In phase
- Line
- Quad.
- Conductor, wk, mod, strong
- 3600' ——— -50%



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To accompany Geophysical Report by N.B. Vollo,
P.Eng., dated March 20th, 1970

ROYAL CANADIAN VENTURES LTD.
KAMLOOPS, BC

93 K/12 BL GROUP

EM-16 SURVEY

Drawn by: Scale: 1"=400' Date: 15-3-70

