

GEOLOGICAL, GEOCHEMICAL and GEOPHYSICAL  
REPORT on the KL #7 and #8 Groups of 16  
claims and KL #58 claim in the Nicola  
Mining Division of B.C. Claims are  
situated about 3 miles north of Merritt,  
B.C. at 50°, 120°. Work done between  
November 13, 1957 and November 13, 1958.

SW

Signed

*L. B. Gatenby*  
L. B. Gatenby, P. Eng.

92I/2W

0229

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Enclosed Maps

- #1 1. Geological and claim map Jesse Creek area AB.22 north section Scale 1" - 400'.
- #2 2. Geological and claim map Jesse Creek area AB.22 south section Scale 1" - 400'.
- #3 3. Detailed Geological map Hematite Pit area (KL #38 to #41 claims) Scale 1" - 20'.
- #4 4. Geochemical map Jesse Creek area north section Scale 1" - 400'.
- #5 5. Geochemical map Jesse Creek area south section Scale 1" - 400'.
- #6 6. Magnetometer map AB.22 Scale 1" - 400'.
- #7 7. Magnetometer map Jesse Creek area north section Scale 1" - 400'.
- #8 8. Magnetometer map Jesse Creek area south section Scale 1" - 400'.
- #9 9. E.M. Tilt Profile map Jesse Creek claims (KL #38 to #41 claims) Scale 1" - 400'.
- #10 10. Self Potential Profile map Jesse Creek claims (KL #38 to #41 claims) Scale 1" - 400'.
- #11 11. Gravity Profile map Jesse Creek claims (KL #38 to #41 claims) Scale 1" - 400'.

Expenditures

Expenditure of Rio Tinto Canadian Exploration Ltd., on K.L. #7 and #8 groups and K.L. #58 claim totalling 17 claims in the Nicola Mining Division of B.C.

The Groups and Claims are:

Group K.L. #7	--	Mineral claim	KL #38
	--	" "	KL #39
	--	" "	KL #40
	--	" "	KL #41
	--	" "	KL #42
	--	" "	KL #43
	--	" "	KL #44
	--	" "	KL #45
Group K.L. #8	--	" "	KL #46
	--	" "	KL #47
	--	" "	KL #48
	--	" "	KL #49
	--	" "	KL #50
	--	" "	KL #51
	--	" "	KL #52
	--	" "	KL #53 L.S.
	--	" "	KL #58

*proceedings*

Geological ExpendituresPersonnel

D. Calimente, Ma. Sc. Field Geologist Salary \$550.00/month plus board 24 days @ \$15.00/day allowable	\$ 360.00
C. A. Langlois - Prospector Salary \$350.00/month plus board 10 days @ \$15.00/day allowable	150.00
L. B. Gatenby, P. Eng. Supervisory capacity 5 days @ \$35.00/day allowable	175.00
Unemployment Insurance and Workmen's Compensation	35.00
Camp food costs @ \$2.40/day/man 39 man days	93.00
Total	<u>\$ 813.00</u>

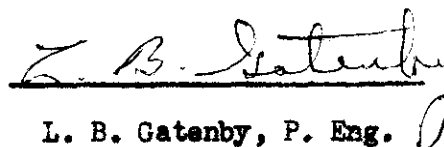
Signed

  
 L. B. Gatenby, P. Eng.

Geochemical ExpendituresPersonnel

C. A. Langlois, Geochemical operator Salary \$350.00/month plus board 14 days @ \$15.00/day allowable	\$ 210.00
A. K. Rimmer, Geochemical operator Salary \$375.00/month plus board 6 days @ \$15.00/day allowable	90.00
Lawrence Daly - Line Cutter Salary \$350.00/month plus board 6 days @ \$15.00/day	90.00
D. Calimente Ma. Sc. Field Geologist 9 days @ \$15.00/day allowable	135.00
L. B. Gatenby, P. Eng. 3 days @ \$35.00/day	105.00
Unemployment Insurance and Workmen's Compensation	30.00
Camp food costs @ \$2.40/day/man 38 man days	91.00
Total	\$ 751.00

Signed



L. B. Gatenby, P. Eng.

Geophysical ExpendituresPersonnel

J.A.C. Keefe, Graduate Geophysicist (Toronto) In charge of Geophysical Surveys 12 days @ \$35.00/day allowable	\$ 420.00
J.A. Lamarre, Geophysical operator Salary \$400.00/month plus board 15 days @ \$15.00/day allowable	225.00
W. Wasylichko, Geophysical operator Salary \$400.00/month plus board 15 days @ \$15.00/day allowable	225.00
L. Daly, Geophysical operator and helper Salary \$350.00/month plus board 14 days @ \$15.00/day allowable	210.00
J.P. Duval, Geophysical operator and helper. Salary \$350.00/month plus board 20 days @ \$15.00/day allowable	300.00
N. Dirks, Line Cutter Salary \$250.00/month plus board 18 days @ \$10.00/day	180.00
Unemployment Insurance and Workmen's Compensation	75.00
Camp food costs @ \$2.40/man/day 94 man days	225.00
	<hr/>
Total	\$1860.00
	<hr/>

Signed L. B. Gatenby  
L. B. Gatenby, P. Eng.

Report on the Geological, Geochemical and Geophysical work done on the KL #7 to #9 groups of mineral claims in the Nicola Mining Division of B.C. between November 13th 1957 and November 13th 1958 by Rio Tinto Canadian Exploration Ltd., (formerly Rio Canadian Exploration Ltd.)

## 1. Geological

(See 3 geological maps Jesse Creek area AB22)

Control for the geological mapping of this area was obtained from aerial photograph mosaics and surveyed grid lines cut and picketed on the ground.

The aerial photograph mosaics were prepared from B.C. Government 1" =  $\frac{1}{2}$  mile photographs and subsequently enlarged to a scale of 1" = 1320' approximately. These mosaics proved very useful and economical in the geological mapping of the area. They were first used for geological interpretation of the area and later for ground control of the many reconnaissance surveys before and beyond the grid surveys.

After the geological reconnaissance surveys grid lines were cut and surveyed in the most promising areas on 400', 600', and 800' spacing with 100' stations.

Results of the geological mapping shows the claims to be underlain by Triassic Nicola formation volcanics and sediments with a part of the Guichon Batholith outcropping to the west of Jesse Creek. Tertiary Coldwater series sediments cover the country to the north and east of the claims. These sediments strike north westerly and dip at various flat angles. In the Nicola formation three sedimentary horizons were mapped striking north north westerly and dipping steeply to both east and west. Some mineralization connected with these sediments and in associated quartz stringers is indicated on the maps. A small outcrop of intrusive dioritic rocks was mapped on KL #52 mineral claim. Geological mapping of the claim block is shown on a scale of 1" = 400' and detailed mapping of the hematite pit area (KL #38 to #41) is at 1" = 20'.

## 2. Geochemical

(See 2 Geochemical maps Jesse Creek area)

The geochemical method used is a dithizone field technique developed by Rio Tinto Canadian Exploration Ltd. General procedure is to take soil samples on surveyed grid lines at 100 foot stations and in creeks and drainage gulleys at 250 foot intervals. Anomalous samples and every tenth background sample are sent to the Company's Toronto Laboratory for spectographic analysis. Surveying of the grids is done by compass and tape.

On these claim groups over 78,000 feet of grid line was soil tested at 100 feet intervals. In addition to this, many samples (not shown) were taken along the small creeks and drainage depressions within and outside the grid area. Overburden was found to be deep in the south western part of the claim groups but <sup>soil sampling</sup> is considered effective in the remaining area (about 60%).

Enclosed are 2 maps scale 1" = 400' showing the grids and areas covered by the geochemical soil survey. Results show small weak anomalous areas over the two western Nicola sedimentary bands on claim KL #38 to #41 and broad low anomalous readings over a low hill on claims KL #53 and #58. Further detailing of these three areas did not prove encouraging.

### 3. Geophysical

(See 6 enclosed maps Jesse Creek AB22)

All gridded areas were surveyed with a magnetometer. A Sharpe magnetometer with a sensitivity of about 20 gammas per scale division was used on the 5000' grid on claims KL #38 to #41. Additional magnetometer work totalling over 88,000 feet was done on 400' and 800' spaced lines on the remainder of the claim groups with a Radar magnetometer, sensitivity about 50 gammas per scale division. On the 5000' grid on claims KL #38 to #41 three additional geophysical surveys were run. They are:

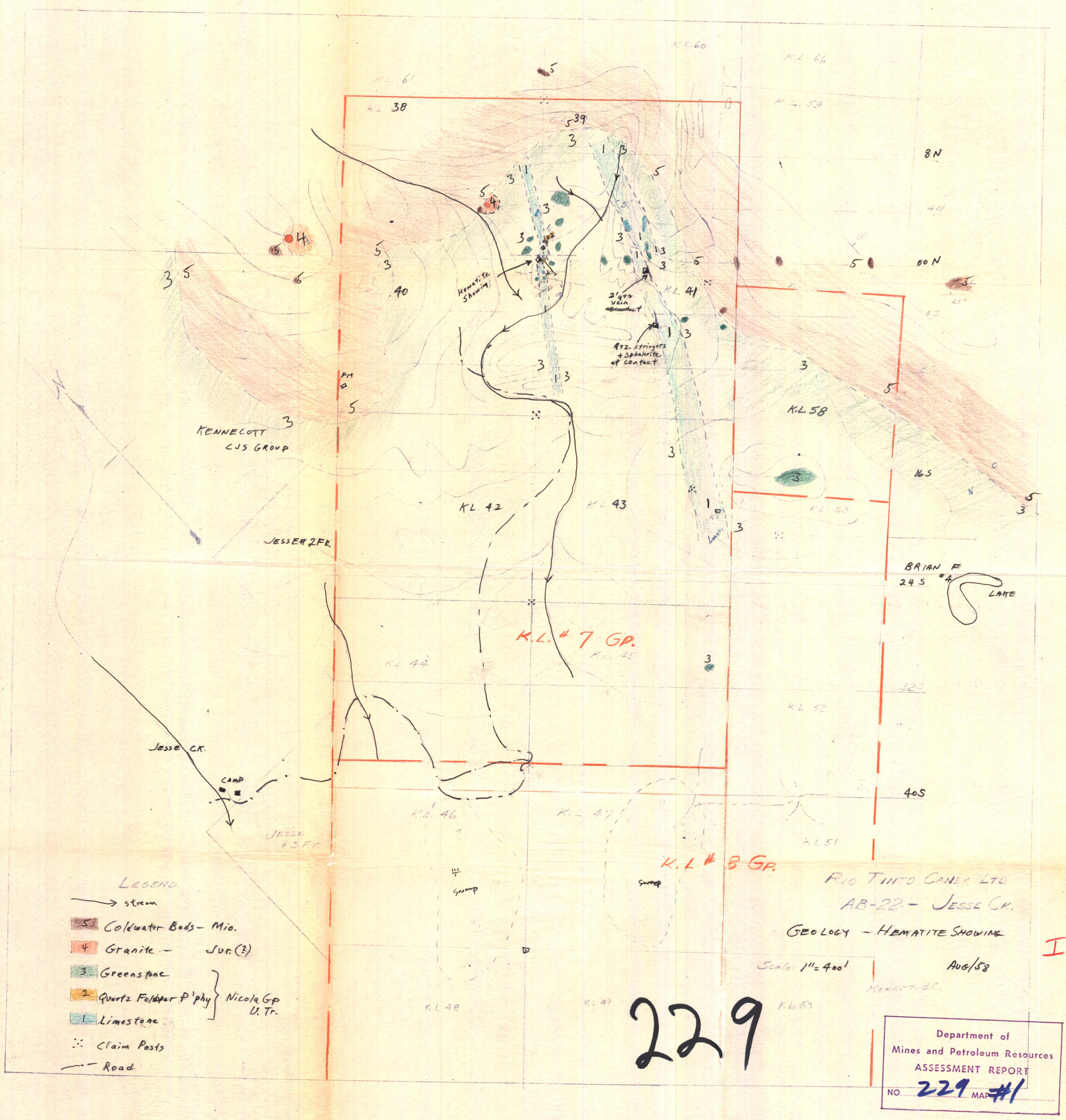
- (1) Electromagnetic with a Sharpe model SE 100 unit.
- (2) Gravity with a standard gravimeter and surveyor's level.
- (3) Self potential with a Geophysical Engineering Ltd. potentiometer, 1000' reel of wire and porous pots.

Enclosed are three maps showing the general magnetometer work on a scale of 1" = 400' and 3 maps showing the results of the 3 additional surveys run on the 5000' grid on KL #38 to #41.

Results of the magnetic surveys on the 800' spaced grid showed five broad anomalous areas occurring within the claim groups. Additional magnetic work at 400' line spacing was done on these five areas. The magnetic anomalies showed up very broad or irregular. Three additional geophysical surveys (E.M., Gravity, S.P.) on one of the magnetic anomalies gave negative results. Also some S.P. work on a second magnetic anomaly gave no changes in the readings. Results of the first surveys were considered along with the geological and geochemical results for laying out of the additional work. All surveys were run at standard 100 feet stations on the 400 feet spaced grid lines. In the case of the electromagnetic survey transmitter set-ups were made for receiver readings at distances not greater than 800 feet and on the average 500 to 600 feet.

*L. B. Gatenby*  
 .....  
 L. B. Gatenby. P.Eng.





LEGEND

- stream
- 5 Coldwater Beds - Mio.
- 4 Granite - Sur. (?)
- 3 Greensstone
- 2 Quartz Feldspar P'phy } Nicola Gp
- 1 Limestone } U. Tr.
- ∴ Claim Posts
- Road

RIO TINTO CANEX LTD  
AB-22 - JESSE CK.

GEOLOGY - HEMATITE SHOWING

Scale: 1" = 400'

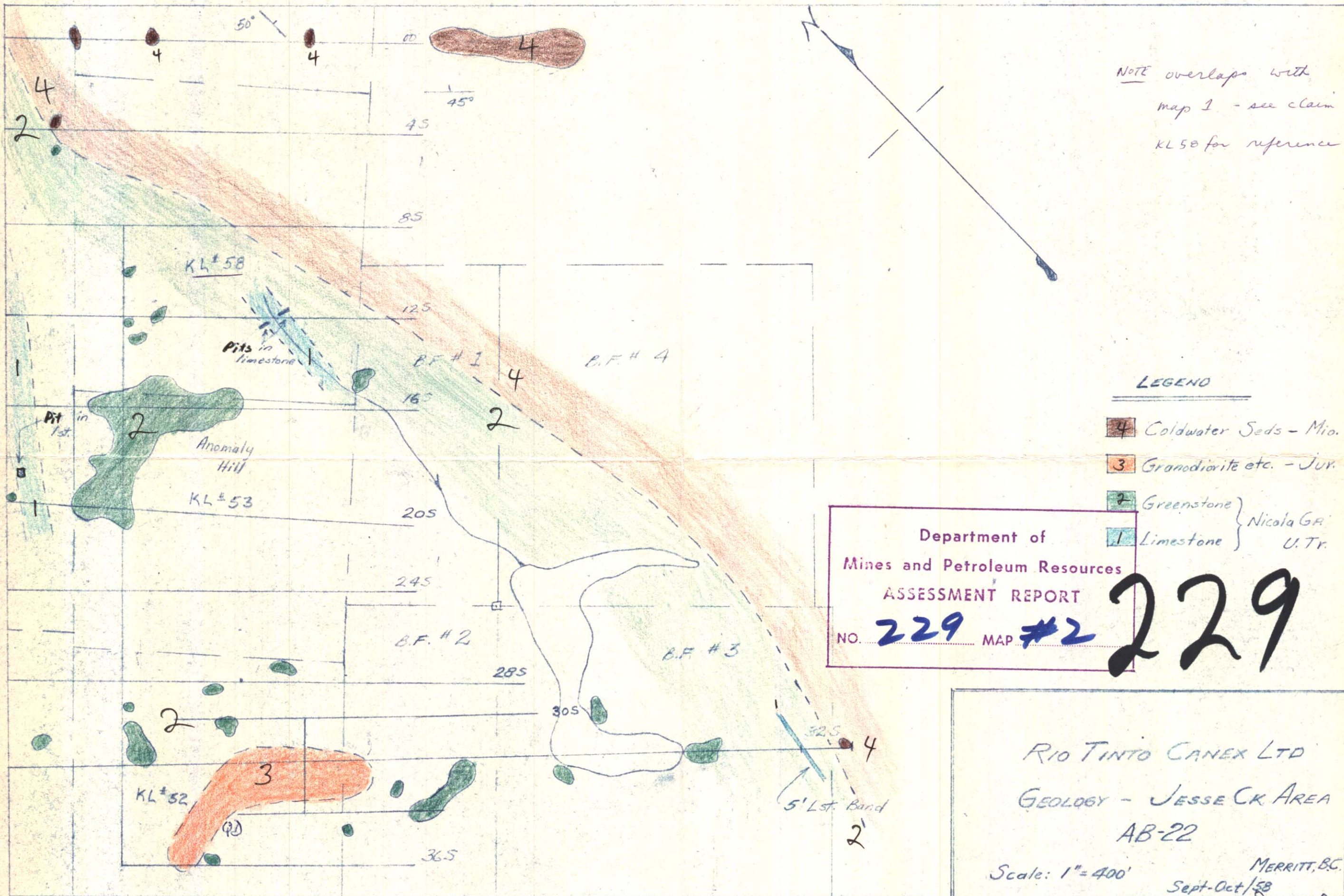
AUG/58

MERRITT B.C.

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NOTE overlaps with  
map 1 - see claim  
KL 50 for reference

**LEGEND**

- 4 Coldwater Seds - Mio.
  - 3 Granodiorite etc. - Jur.
  - 2 Greenstone
  - 1 Limestone
- } Nicola GR.  
U.Tr.

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RIO TINTO CANEX LTD  
GEOLOGY - JESSE CK AREA  
AB-22

Scale: 1" = 400'  
MERRITT, B.C.  
Sept-Oct/58  
E. B. Daterby

2



Quartz-felspar porphyry

Shallow Trench exposing Barren limestone

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Andesite

Limestone

6' Pit

13 Hematite + Magnetite along contact on NE wall (Cu stain)

Vertical slip

Possible Fault

# 229

quartz-felspar porphyry

Limestone

Specularite in limestone (Cu stain)

30°

Andesite

10' Pit

90°

80°

Direction of slips

RIO TINTO CANEX LTD

JESSE CREEK  
HEMATITE

#3

Scale: 1" = 20' *B. Salento* 4/58

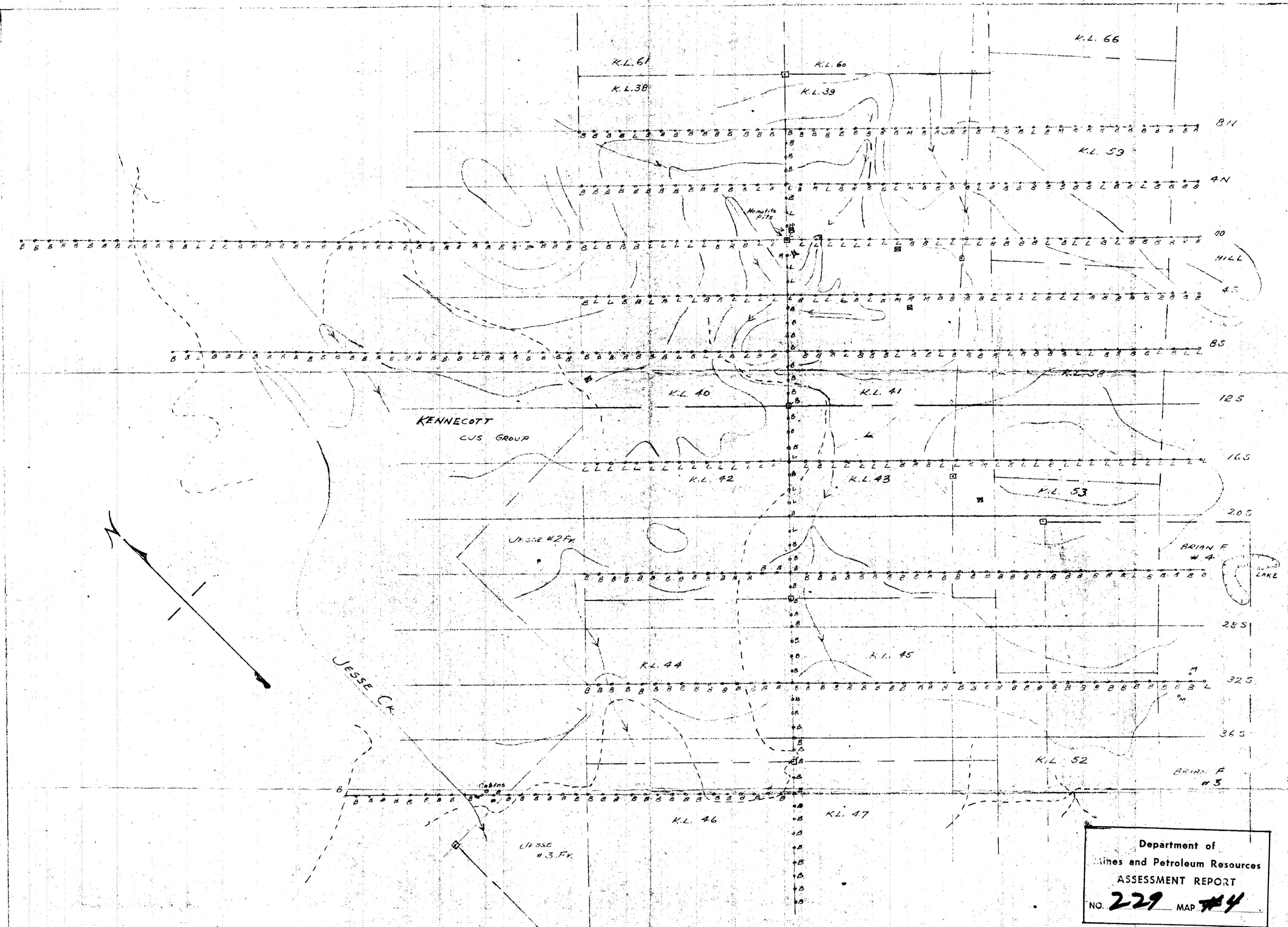
K.L. 38

K.L. 39

K.L. 40

K.L. 41



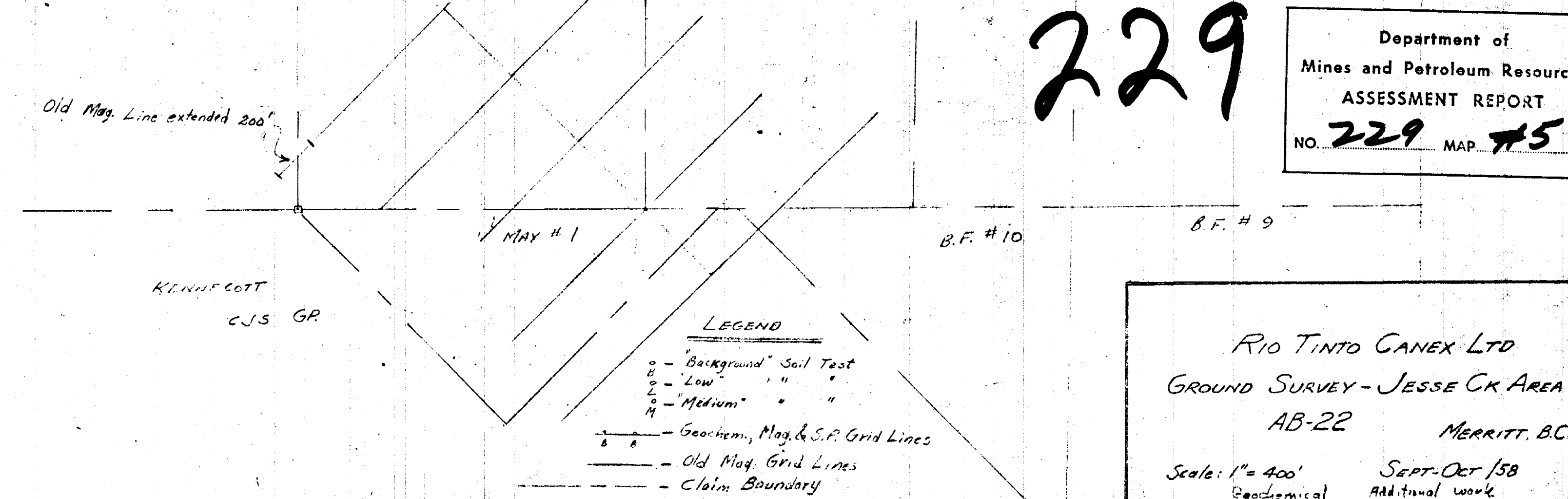
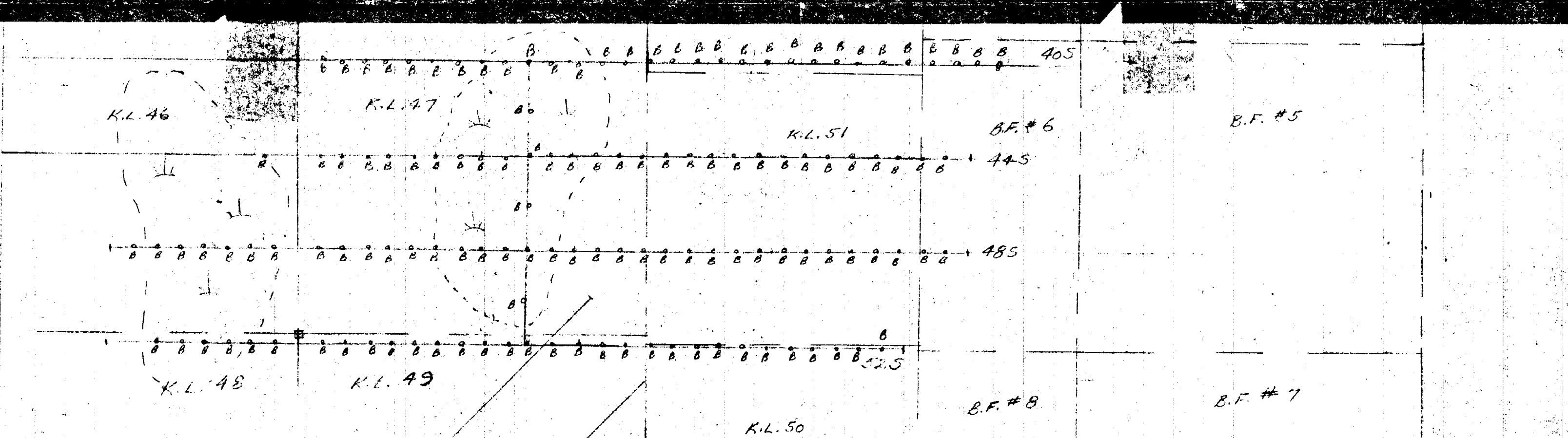
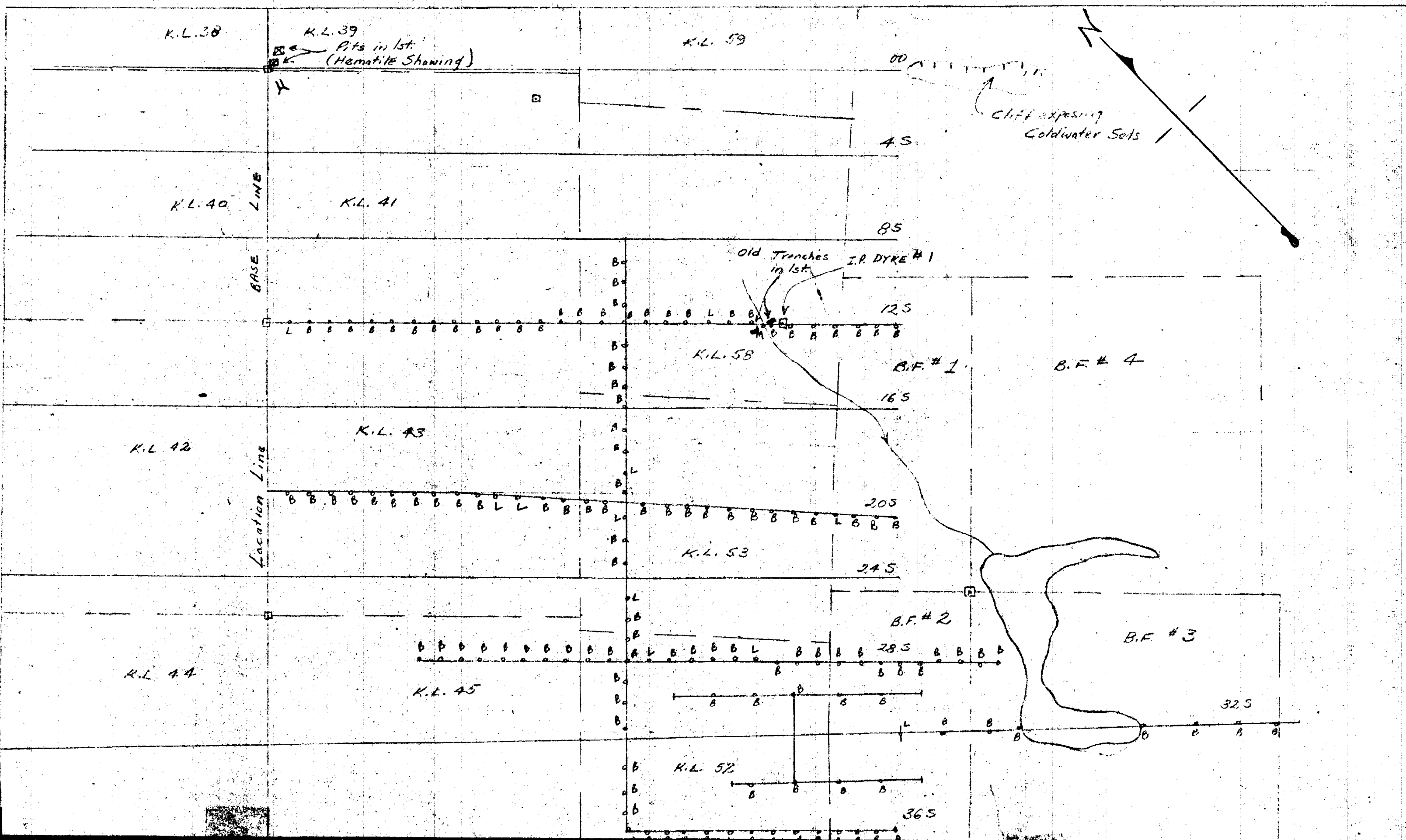


- LEGEND**
- Claim Posts
  - Pit
  - - - Road
  - B Background Geochem. Test
  - L Low " "
  - M Medium " "
  - H High " "

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**229**

RIO CANEX LTD  
 MAGNETOMETER & GEOCHEMISTRY GRIDS  
 JESSE CREEK CLAIMS  
 (East Croismont) MERRITT, BC.  
 Scale: 1" = 400'  
 JULY - AUGUST/58  
 Geochemical Results *E. B. Steady*



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**LEGEND**  
 o - "Background" Soil Test  
 B - "Low" " "  
 L - "Medium" " "  
 M - "Medium" " "  
 ——— Geochem., Mag. & S.P. Grid Lines  
 - - - - - Old Mag. Grid Lines  
 - - - - - Claim Boundary

RIO TINTO CANEX LTD  
 GROUND SURVEY - JESSE CK AREA  
 AB-22 MERRITT, B.C.  
 Scale: 1" = 400'  
 Geochemical SEPT-OCT /58  
 Additional work  
 Z. S. Galarza

*Handwritten note:*  
 Magnetic declination  
 on 0, 4N, 5N  
 possibly different  
 from 4S, 12N.

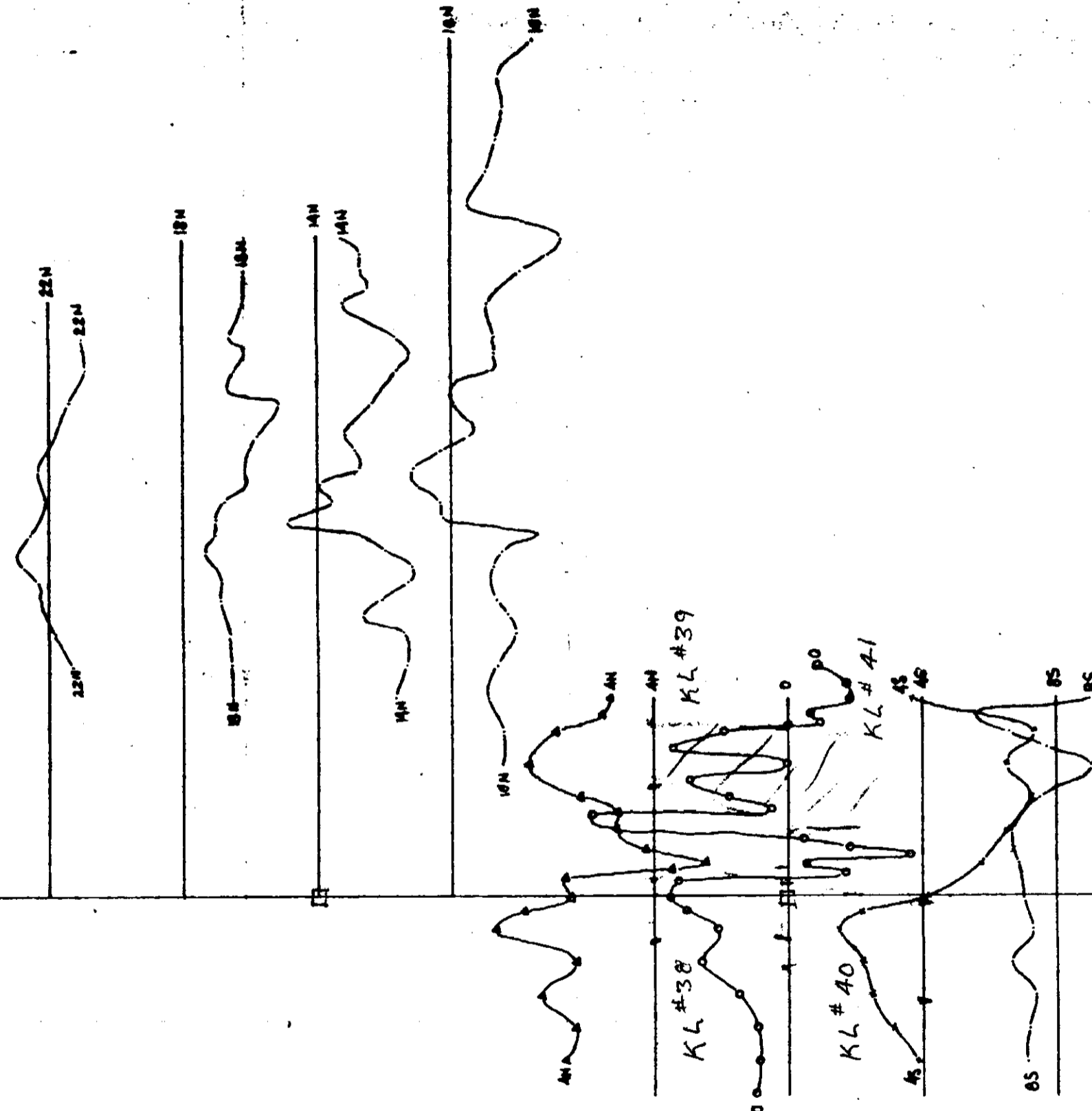
GRID 4N

GRID 4.

GRID 4S.

BASE LINE  
CLAIM LOC. LINE.

BASE LINE. CLAIM LOC. LINE.

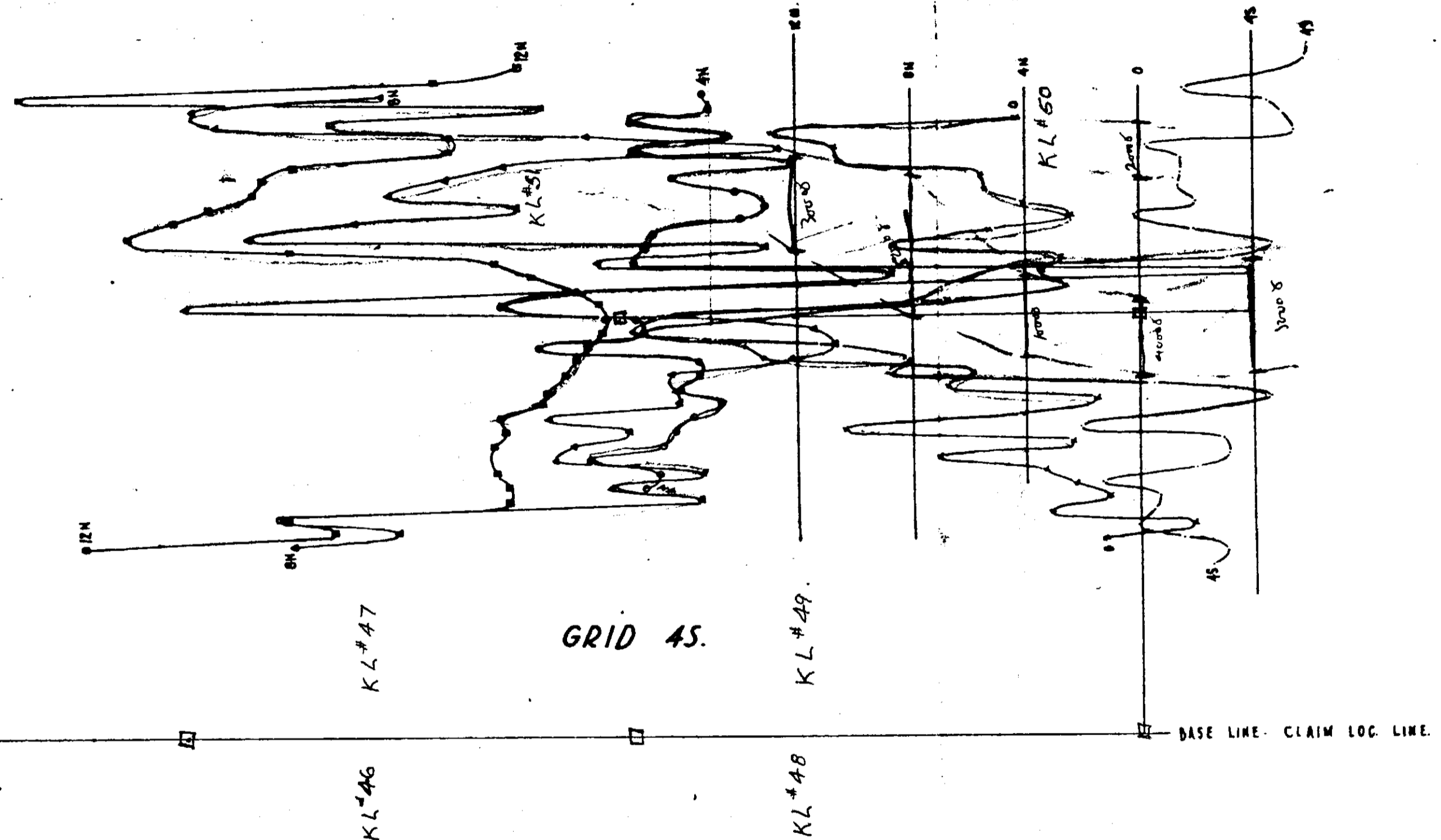


KL#43

KL#45

KL#42

KL#44



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RIO CAN EX  
 AREA- AB-22  
 GRIDS 4S, 4, & 4N  
 MAGNETIC PROFILES

WORK BY: W.W.	SCALE:	DATE:
PLOT BY: J.K.	1" = 400'	27-V-58
INT. BY: J.K.	1" = 1000'	

*Handwritten signature:* B. J. ...

Location Line

8N

4N

00

4S

8S

16S

24S

32S

40S

JESSE CK.

JESSE CK.

JESSE CK.

East Line N 45 E (True)

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RIO CANEX LTD  
MAGNETIC PROFILES  
JESSE CREEK CLAIMS

Scale: Vertical 1"=1000'  
Horiz. 1"=400'

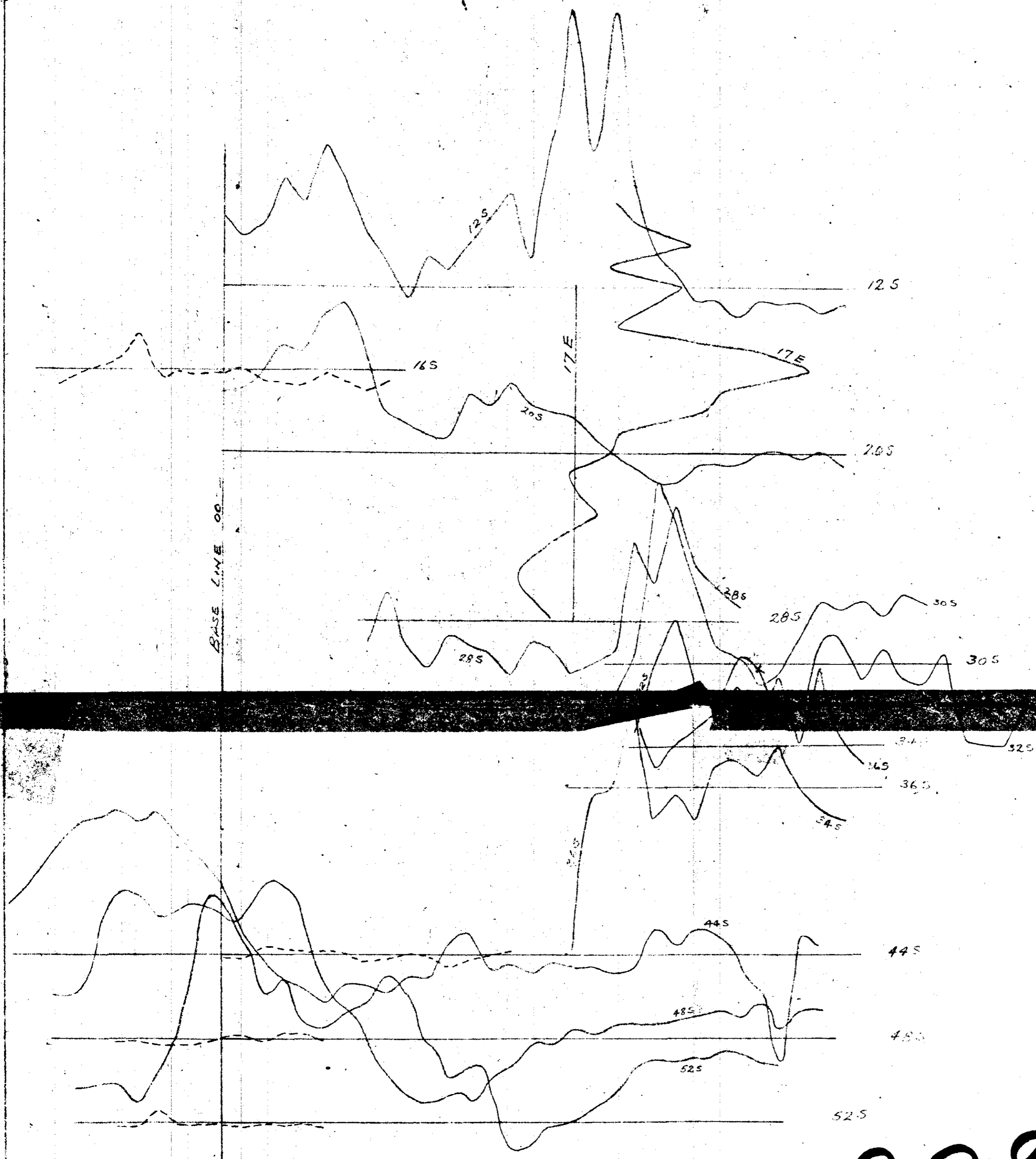
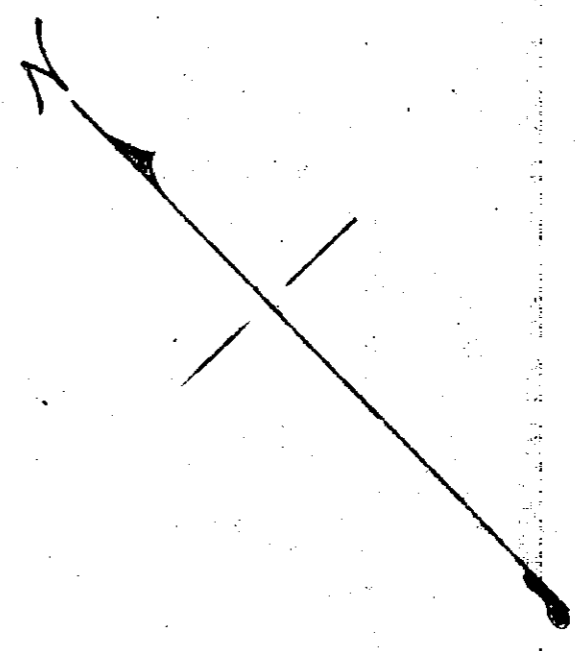
L. B. Stanley

MERRITT, B.C.  
Aug/58

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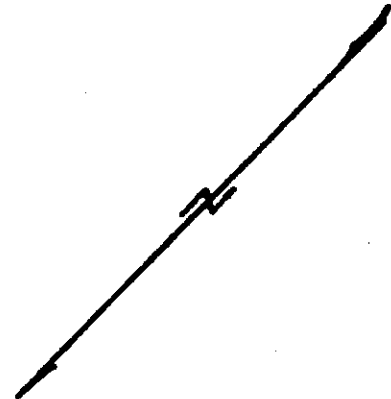
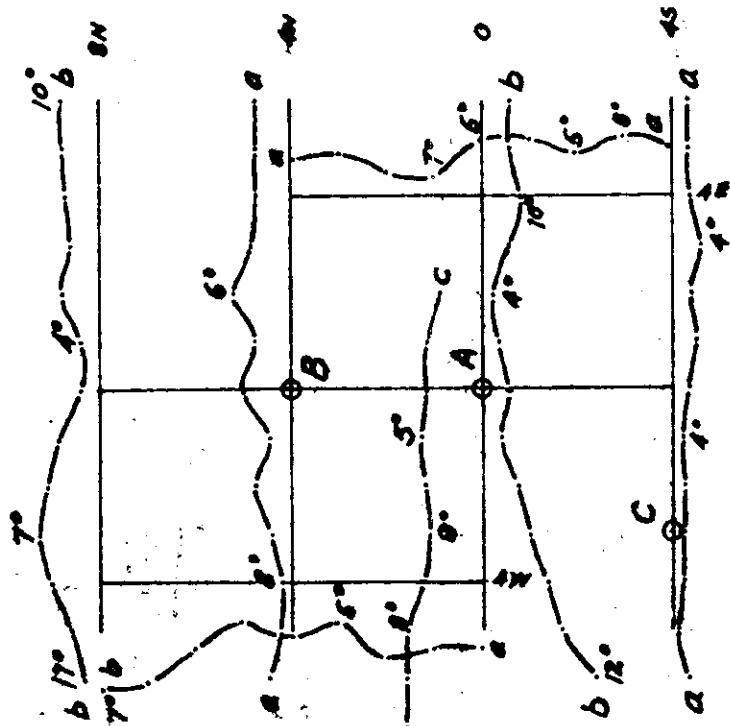
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LEGEND  
----- SP Profile  
~ Mag. Profile

RIO TINTO CANEX LTD  
MAGNETIC & S.P. PROFILES  
JESSE CREEK - AREA AB-22  
Scale: Horiz. - 1"=400'  
MAG - 1"=1000'  
S.P. - 1"=100M  
Sept-Oct/58  
MERRITT, B.C.  
T. R. J. [Signature]





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**RIOCANEX**

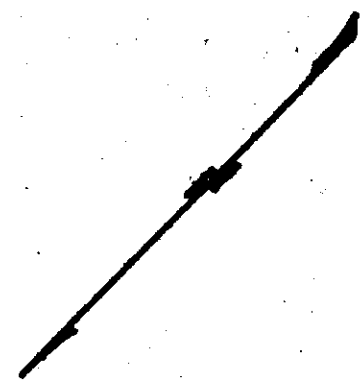
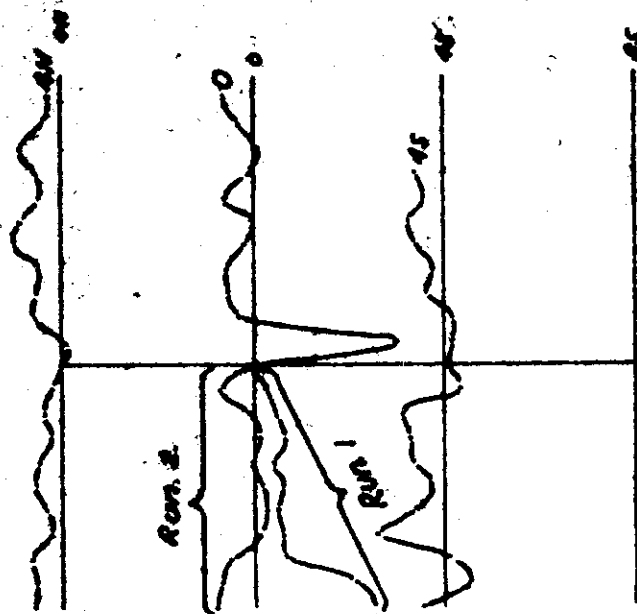
Grid 4. E.M. Tilt Angles  
 AB-22 - Jesse Creek Claims

SCALE 1" = 400'; 1" = 50' 1000 S.L.

MAY 27, 1958

*Z. B. Salentz*

*M. ...*

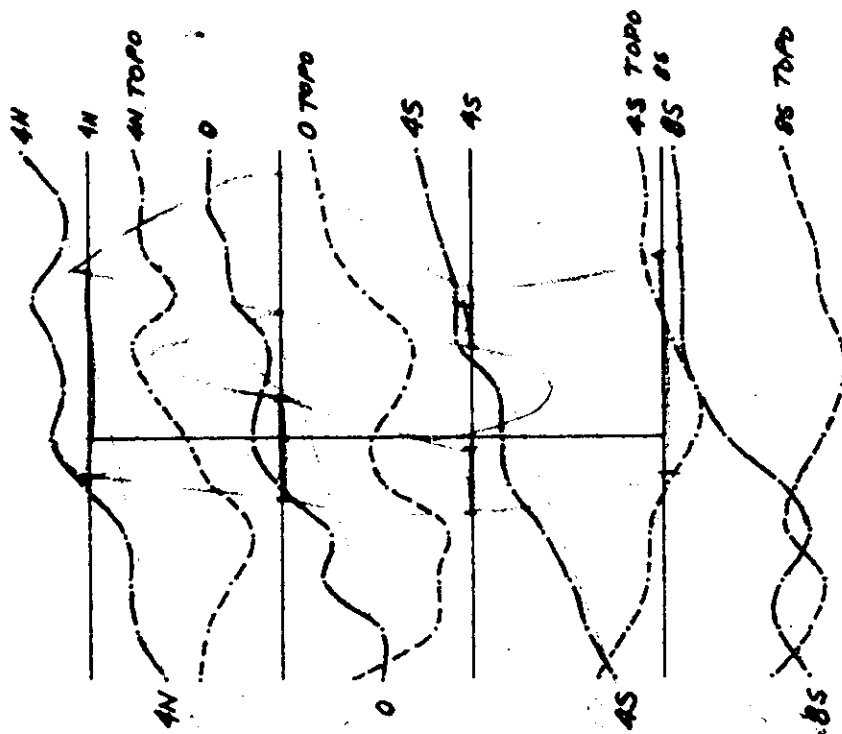


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**RIOCANEX**  
 Grid 4 - Self Potential Profiles  
 AB-22 - Jesse Creek Claims  
 SCALE 1" = 400' ; 1" = 100 MV  
 MAY 27, 1958; PLOT: J.K.

*Z. B. Johnston*  
 Manager



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**RIOCANEX**

Grid 4 - Gravity Profiles  
 AB-22 - Jesse Creek Claims  
 SCALE 1" = 400'; 1" = 1.0 M.S.; 1" = 100'.

MAY 27, 1958; PLOT: J.K. 11

L. B. Selentrey

Manager