

007696

PMK  
COPY

August 27, 1970

Dr. Duncan Crone,  
Crone Geophysics Ltd.,  
3607 Wolfedale Road,  
Mississauga, Ontario.

Re: Lyn Group of Claims, Magundy River Area, Y.T.  
Geophysical Work

Dear Duncan:

Enclosed are the following:

- 1) Interpretation of gravity survey by Overland together with a residual map.
- 2) I. P., Resistivity, S. P., and Gravity profiles for Line 118 and the same for Line 134 except for the E.M. profile which is omitted. E. M. work was done using one headphone and the operator (LaRoss) advised that he got zero response on Line 134. We are also enclosing a sketch map on a scale of 1" = 1/2 mile showing the relationship of the gravity anomalies to the anomalous lead contours.

GRAVITY SURVEY:

The Overland people tell me that despite all of the checking they have done and this includes checking the meter constant and using different density values up to 2.95, they have been unable to eliminate the gravity highs which coincide with topographic highs. I have not as yet attempted to check their calculations personally but I believe that you did some of this on your own. Until such time as one of us can indicate an error in calculation, we have to assume that the work is correct. Certainly the application of different densities in the Bouger correction should eliminate the highs from the hilltops if a denser material does not exist. We were able to do this quite successfully with a gravity survey over the ice at Swim Lakes.

(continued - Page 2)

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I.P. SURVEY:

On Line 134 there is a gradual increase in chargeabilities from south to north but this appears to be simply a gradient caused by graphitic rocks located north of the gravity high. The resistivity profile provides no clues whatsoever.

On Line 118 there is if anything, an I.P. low over the gravity high and again, the resistivity is of no help.

S.P. SURVEY:

S. P. readings were recorded in the course of the I.P. survey. Since the Wenner array was used, the S.P. results are leap-frog or gradient type.

On Line 134 the S.P. gradient increases from south to north suggesting again a graphitic horizon downhill from the gravity anomaly.

On Line 118 the S.P. profile is plotted as read on the instrument and as a gradient. The inflection point on the gradient coincides with the gravity high and there is therefore correlation between the S.P. and gravity surveys on this line.

J.E.M. SURVEY:

LaRose did not check the contents of the E.M. box before going to the property and found, once there, that he only had one set of earphones. Consequently he had to run the line twice and I am not sure how reliable the results are.

On Line 134 his notebook indicates zero response.

On Line 118 there is a 2<sup>o</sup> to 4<sup>o</sup> negative anomaly which coincides with the gravity high and with the S.P. anomaly.

RESISTIVITY DEPTH PROBE:

Because it was possible that there were valleys filled with glacial debris on the south sides of the hills and gravity anomalies, an attempt was made to detect these concealed depressions. Accordingly, the Schlumberger method was used wherein the potential electrodes (2L) were placed 10 feet apart and the current electrodes were placed 20 feet apart and expanded by moving these electrodes 10 feet further away until a total electrode separation (2L) was 1,000 feet. As the current electrode separation was increased, the secondary voltage fell off to a point where

COPY

it was no longer readable and it became necessary to increase the spread of the potential electrodes to 20 feet.

Line 134: The resistivity probe was made at station 16+50N. This point is 600 feet south of the gravity high. Instead of indicating the presence of a concealed valley, the resistivity measurements suggest that the bedrock is relatively shallow and gradually becomes a better conductor as the current penetrates deeper into the ground.

There is not likely to be any permafrost to interfere with the test since the location of the test was on the south side of the hill. Permafrost, where present in the Yukon, normally occurs on the north slope. There appears to be a levelling out of resistivities where  $L = 230$  feet suggesting a change in rock type at that depth.

Line 118: The resistivity probe was made at station 25+00N. This point is 600 feet south of the gravity high. With increased depth penetration the resistivity falls off steadily from approximately 2500 ohm-feet to 600 ohm-feet. Again, the only interpretation which can be construed for this profile is that the rocks become more conductive with depth. The test is useless from a standpoint of determining overburden depth in this geologic environment.

SUMMARY:

Geophysically, the situation is an enigma. The one encouraging aspect would appear to be that there are extensive lead-zinc soil anomalies downhill from the gravity anomalies. Since these soil anomalies are similar in most respects to those found at Swim Lakes, great care must be exercised in the interpretation of the information. As time permits, I will check some of the gravity calculations just in case the Overland computer has made errors. As you are probably aware, there are numerous narrow stringers of sphalerite and galena which could cause the geochemical highs and which in the complete absence of pyrite might be relatively hard to detect by geophysical methods. The hand specimens we have in this office have much more sphalerite than galena and in each case the sphalerite is accompanied by quartz replacement. Is it therefore possible that there are masses of sphalerite containing some galena which are reflected in the gravity work and which occur on hilltops because erosion has removed the relatively flat lying mineralization from the accompanying

values?  
Valleys?

(continued - Page 4)

COPY

The possibility of concealed valleys cannot be ruled out at this point. Quite possibly seismic equipment utilizing blasting caps would provide the answer. This procedure does not work well in permafrost but as mentioned previously, there should be no permafrost on the south side of the hills where the concealed depressions might occur. This work would be relatively inexpensive and if the valleys were found, it would be quite conclusive.

Best regards,

Yours sincerely,

W. M. Sirola.

WMS/lk  
Encl.

# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

SEP -1 1970

ef  
y/3 D

To P. M. Kavanagh From W. M. Sirola  
Subject Lyn Group, Y.T. - Gravity Survey Date Aug. 31/70

I.H.S.  
~~W.M.S.~~  
G.M.H.  
R.D.S.  
B.C.B.  
I.D.B.  
M.D.R.  
J.H.F.  
  
E.C.J.

Enclosed are copies of correspondence and maps which have been sent to Duncan Crone.

There is considerable correlation between the gravity highs and the geochem highs but the coincidence of gravity anomalies with topographic highs is too good altogether.

The probable cause of the anomalies is variations in the depth to bedrock but we were not able to prove this point using the resistivity technique. Since there is no permafrost on the south sides of these hills, a seismic procedure using blasting caps would probably provide a fair idea of variations in bedrock. I am not however advocating this until we have done our own checking on the calculations using different densities.

*Bill*

W. M. Sirola.

WMS/1k  
Encl.

JUN 30 1971

# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

*of*  
*7/13*  
*D*

✓	J.H.S.
✓	P.M.K.
✓	G.M.H.
	R.D.S.
	B.C.B.
	I.D.B.
	M.D.R.
	J.H.F.
	(C.J.)

To G.M. Hogg

From W.M. Sirola

Subject LYN GROUP  
Galeski Gravity Survey (1971)

Date June 28, 1971.

I have arranged with Bob Galeski to redo lines 82 to 190. Paul had mentioned over the telephone that in his discussions with Duncan Crone they had decided to terminate the work at lines 166W. They probably arrived at this coverage from looking at the geological map which did not show a 500 ppm zinc contour which extends from line 178W to line 194W at approximately 2100 to 2500 north. It was my feeling that since this is the same magnitude of geochemical anomaly as the more central anomalous zone, it should be covered in the survey.

Since Galeski will have three men on the property for part of the survey, I have asked them to stake 12 claims on the northeast side, and these claims would be contiguous to existing claims 95, 97, 127, 129, 131 and 133. In order to provide additional protection to the west side of the claim block, I have requested that they add a strip one claim wide and eight claims long on that side. Each man will have to record his claims on the way out from the project and these will be transferred to Kerr Addison Mines.

Galeski telephoned this morning to advise that his crew had left by truck on June 26 and should be leaving Ross River for the property on June 29. The job is expected to take 15 to 20 days to complete. Galeski will get the first information when the job is half complete, and I will relay this information to you as soon as possible.

WMS/jm

*Bue*

W.M. Sirola.

*These arrangements are satisfactory, and I believe the crew left Ross River on June 29<sup>th</sup> on schedule.*

*Good for 30/71*

**KERR ADDISON MINES LIMITED**

SUITE 405 - 1112 WEST PENDER STREET  
VANCOUVER 1, B.C.  
PHONE 682-7401

Y. 3/D.  
JUL 13 1971

July 13, 1971.

J.H.S.	<input checked="" type="checkbox"/>
P.M.K.	<input checked="" type="checkbox"/>
G.M.H.	<input checked="" type="checkbox"/>
R.D.S.	<input type="checkbox"/>
B.C.B.	<input type="checkbox"/>
I.D.B.	<input type="checkbox"/>
M.D.R.	<input type="checkbox"/>
J.H.F.	<input type="checkbox"/>
<hr/>	
<u>E.C.J.</u>	

Mr. William G. Crook,  
Overland Exploration Services  
(1969) Ltd.,  
1347 - 12th Avenue, S.W.,  
Calgary 3, Alberta.

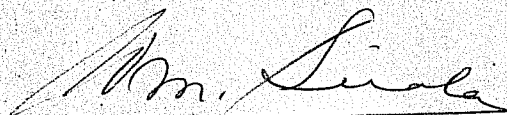
Dear Mr. Crook:

Thank you for your letter of July 6 in which you offer to re-meter our Lyn Group in the Yukon Territory.

It would better serve our purposes if you would simply refund to Kerr Addison Mines the cost of doing the work you propose. This was to consist of a meter man and his assistant, together with the cost of their transportation, with the exception that Kerr Addison would bear a portion of the helicopter costs involved.

We have been suggesting for some time (one year), that something was faulty with this survey, but I am afraid our protestations fell on rather deaf ears. We would, however, welcome the arrangement I have just suggested.

Yours very truly,



W.M. Sirola.

WMS/jm  
c.c. Mr. G.M. Hogg - Toronto ✓

KERR ADDISON MINES LIMITED

MEMO

VANCOUVER OFFICE

DATE July 12/71

TO: GLCEN/H996

FROM: Wm S

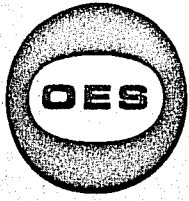
SUBJECT: OVERLAND GRAVITY - LYN GRAND 4.1.

GLCEN,

Will ASK OVERLAND IF  
THEY WOULD REFUND COST OF  
REMEMBERING & COMPOSING  
JURNEY.

Bills is trying this Bill  
but there isn't  
much hope!  
John.

JUL 11 1971



# OVERLAND

## EXPLORATION SERVICES (1969) LTD.

1347 - 12th AVENUE S.W.  
CALGARY 3, ALBERTA, CANADA

TELEPHONE  
403 - 244-2191

- GRAVITY
- MAGNETICS
- I.P. SURVEYS
- RADIO ACTIVE SURVEYS
- DRILLING
- LINE CLEAN UP
- LINE CUTTING
- GEOLOGY

July 6th, 1971

Mr. W. Sirola  
 Kerr Addison Mines Limited  
 Suite 405  
 1112 West Pender Street  
 VANCOUVER 1, B.C.

J.H.S.
<input checked="" type="checkbox"/> P.M.K.
<input checked="" type="checkbox"/> G.M.H.V.
R.D.S.
B.C.E.
I.D.B.
M.D.R.
J.H.F.
<input checked="" type="checkbox"/> E.C.J.

Dear Mr. Sirola:

We have received your telegram of today's date with respect to the Magundy River Gravity Survey.

We have the following thoughts on the matter.

We consider that the physical (topographic) survey is absolutely sound and accurate.

We further consider that the metering done with the Worden Gravity Meter was sound and accurate, but we have subsequently discovered that this particular meter has an erratic meter constant when used off temperature. As you are well aware this meter had been checked in the factory, a matter of weeks before it was used on your job, and it tested out reliably. Furthermore, we ran field checks on gravity bases established here in southern Alberta before the meter went to your job. Considering these above tests it was not unnatural for us to assume that the field reading computations were in fact reliable.

.....Continued.....

**RECEIVED**  
 JUL 7 1971

KERR ADDISON MINES LTD.  
 Per.....

Kerr Addison Mines Limited July 6th, 1971

In light of the dissatisfaction you have expressed with this work we hereby offer to re-meter the project with a different gravity meter and to re-compute the results. There will be no charge to Kerr Addison for the men, meter or the re-computation, however, because of the great expense involved in transportation we feel that Kerr Addison should bear a portion of the helicopter costs involved.

Yours very truly,

OVERLAND EXPLORATION  
SERVICES (1969) LTD.

  
William G. Crook

WGC/jp

L 20 1971 AB

**KERR ADDISON MINES LIMITED**

SUITE 405 - 1112 WEST PENDER STREET  
VANCOUVER 1, B.C.  
PHONE 682-7401

Y/3-D

J.H.S.
P.M.K.
G.M.H. ✓
R.D.S.
B.C.B.
I.D.B.
M.D.R.
J.H.F.
<u>E.C.J.</u>

July 19, 1971.

Mr. William G. Crook,  
Overland Exploration Services  
(1969) Ltd.,  
1347 - 12th Avenue S.W.,  
Calgary 3, Alberta.

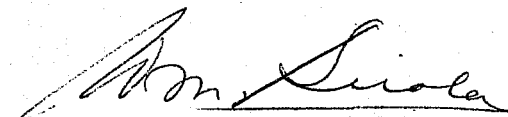
Dear Mr. Crook:

This will reply to your letter of July 15 and specifically to your final paragraph.

I cheerfully concede that Overland put much time and effort on recalculation of the field results. Furthermore, you did write several different reports explaining the meaning of these results. What you did not do was indicate any willingness to believe that there might be an error in the field work or in the behaviour of the instrument, despite the fact that the gradients obtained over the property were most unlikely to be realistic, and despite the fact that variations of as much as three milligals occurred between stations 100 feet apart.

Your offer to re-meter the work would have been much appreciated at the time when we first raised some doubts regarding the accuracy of the survey, but I am afraid it is a little late in the day for our purposes.

Yours very truly,



W.M. Sirola.

WMS/jm

copy - Mr. G.M. Hogg - Toronto ✓

# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

Y-3  
D

J.H.S.	
P.M.K.V	<input checked="" type="checkbox"/>
G.M.H.	
R.D.S.	
E.C.B.	
I.D.E.	
M.D.E.	
J.H.F.	
E.C.J.	

To..... P. M. Kavanagh ..... From..... G. M. Hogg .....

Subject..... Lyn Group (Y-3) ..... Date..... July 26, 1971 .....

Attached is a memo from Bill Sirola with gravity profiles of lines 138W and 154W recently completed by R. Galeski.

The main response extends from line 122W to line 146W, with the anomaly indicated on line 154W isolated (lines 150W and 158W were not run).

Bill proposes (a) some extension of lines (such as 138W) to the north, (b) some check work on irregularities (such as that existing at 60N on 138W), and (c) some additional lines to be run (such as 150W and 158W). The crew is in the area, and the additional coverage is definitely warranted.

Also about 8 more claims will be added along the northwest side of the group to ensure good coverage of the anomalous location. Ted Larose will probably do this staking.

With completion of the foregoing, and when the drill presently located on the Swim 'A' group becomes available, we will start drilling on the Lyn group. This work will probably start around the middle of August. Should encouragement be encountered on the Swim 'A' work of course, another drill will be contracted. Bill will be checking on availability of another machine in case we need it.

I have also mentioned to Bill that the Tay River and Glenlyon Project work should be reviewed - especially in regard to a geochemically anomalous area some four miles north and west of the Lyn Group. For additional mapping, staking, and/or geochemical work the two-man crew in the Findlay River area at present can be used, or if necessary Fred Chow and his crew can be moved into the area. Bill feels, however, that it would be best to wait for the completion of the gravity survey before such work is undertaken. I concur with this view.

Re the area between the Tay River and Glenlyon Project areas which has not been flown aeromagnetically by ourselves, the Government aeromagnetic sheets will suffice for exploration purposes. We need not then consider additional flying there with our Elsec unit.

GMH:1fr

G. M. Hogg

cc: W. M. Sirola



157+00 W  
L 157+00 W

S

N

Hor. Cylinder.  
$$92 = \frac{12.770 - R^2}{Z}$$

154 W

742

741

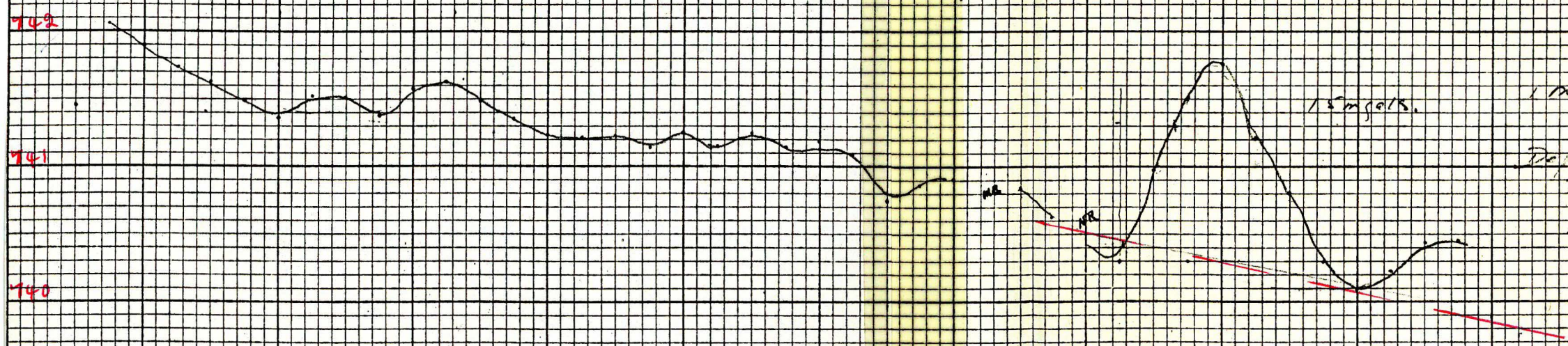
740

739

15 mgals.

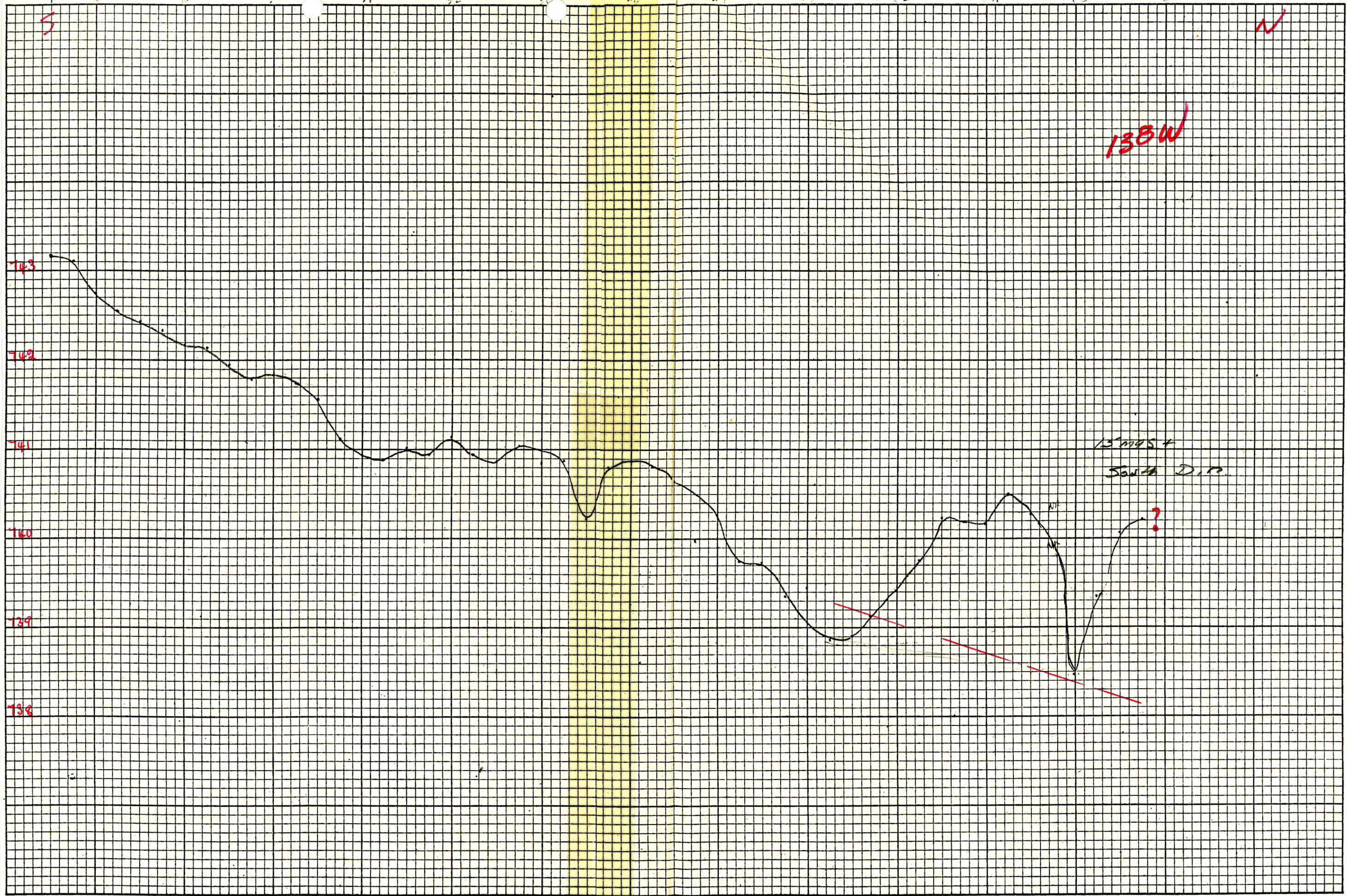
1 millgal in 200'

Depth to centre 150'  
TOP = 50'  
R = 133'



8+00 W 138+00 W

138



# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

AUG - 4 1970

of Y-3  
D.

LHS.	
EMK.	✓
GMH.	✓
RDS.	
TCB.	
IDE.	
MOR.	
INE.	
(E.C.)	

To P. M. Kavanagh From W. M. Sirola

Subject Lyn Group Gravity Anomalies, Date July 29, 1970  
Glenlyon Project, Y.T.

Enclosed please find a tracing of Overland's Bouger map on which we have superimposed the position of part of the geochemical anomalies. The gravity anomaly on Line 134 is depicted in cross-section and the two possible causes are shown. Much as we would like to think that the anomaly is caused by massive sulphides, it is more realistic to think that it is caused purely by topography which for some reason does not seem to respond to any of the calculations applied by Overland. The Overland people seem to feel that we have unusually heavy hilltops in this area. By that they mean rocks with a density in excess of 3.

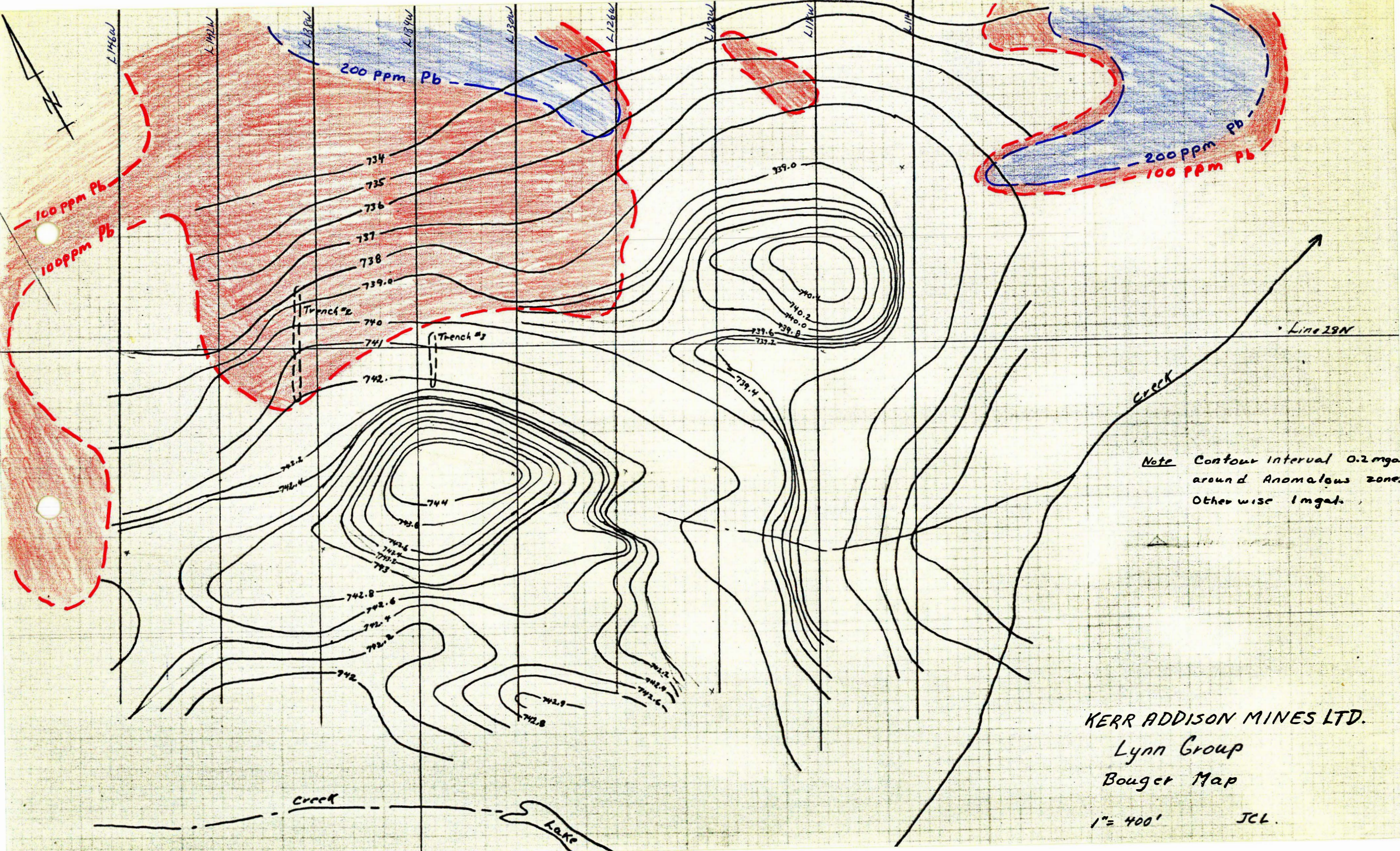
We have given full sway to our imaginations in the case of the sulphide source and by showing this sulphide mass as being more or less strata-bound, any upward migration of lead and zinc values would produce the type of geochemical pattern which is found below the anomaly. It is easy to think that the stringer type mineralization found thus far emanates from a larger concealed mass of sulphides. On the other hand, there is an unfortunate coincidence between each hilltop with a gravity anomaly and this is disconcerting to say the least.

We have sent all of the data we have to Duncan Crone but since it may take Duncan a little while to review this information, perhaps we should send Ted LaRose with two assistants to run I.P. and resistivity traverses over Lines 118 and 134.



W. M. Sirola.

WMS/lk  
Encl.



200 ppm Pb

100 ppm Pb  
1000 ppm Pb

200 ppm Pb  
100 ppm Pb

Trench #2

Trench #3

Creek

Creek

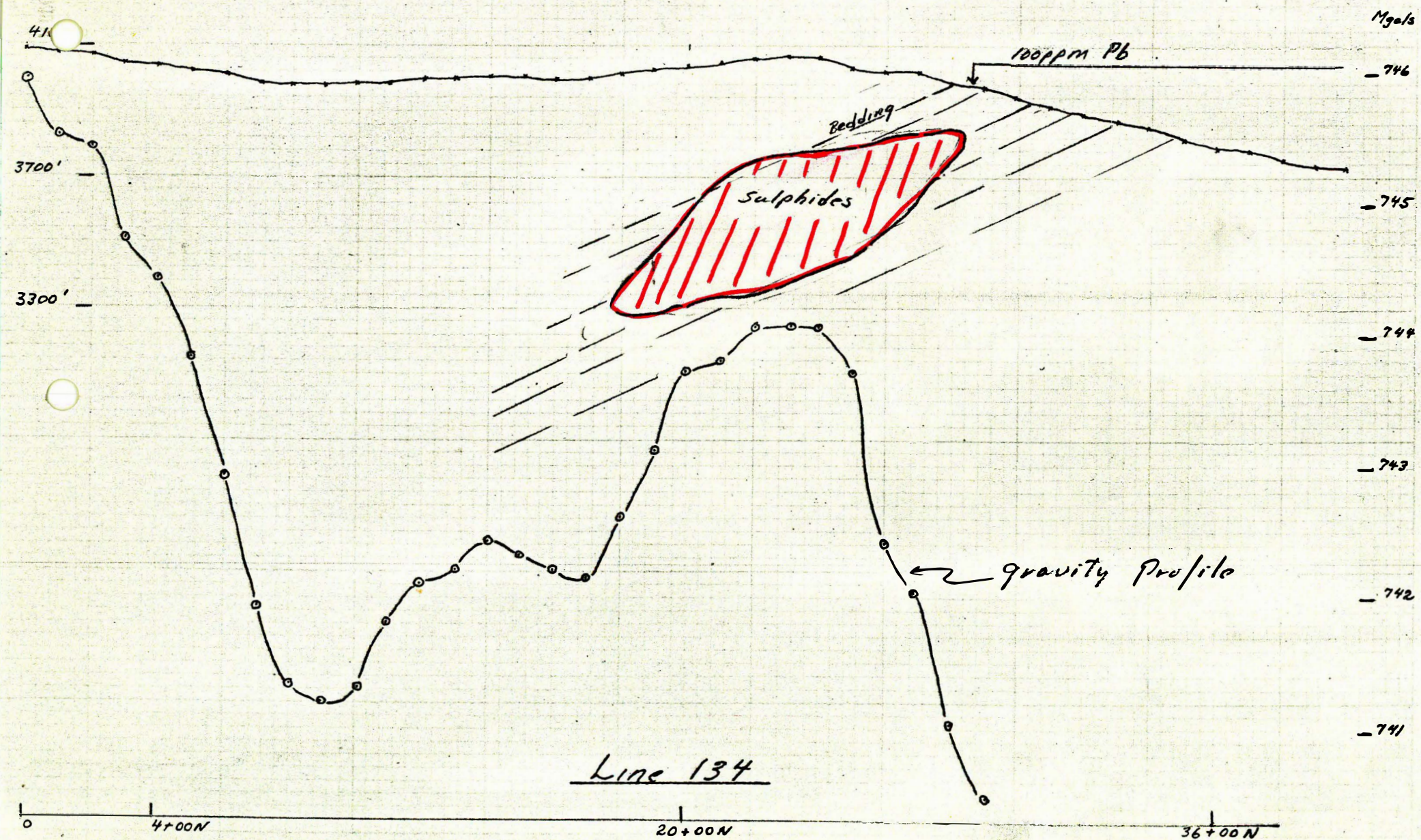
Lake

Note Contour Interval 0.2 mgal  
around Anomalous zones.  
Other wise 1mgal.

KERR ADDISON MINES LTD.  
Lynn Group  
Bouguer Map  
1" = 400' JCL.

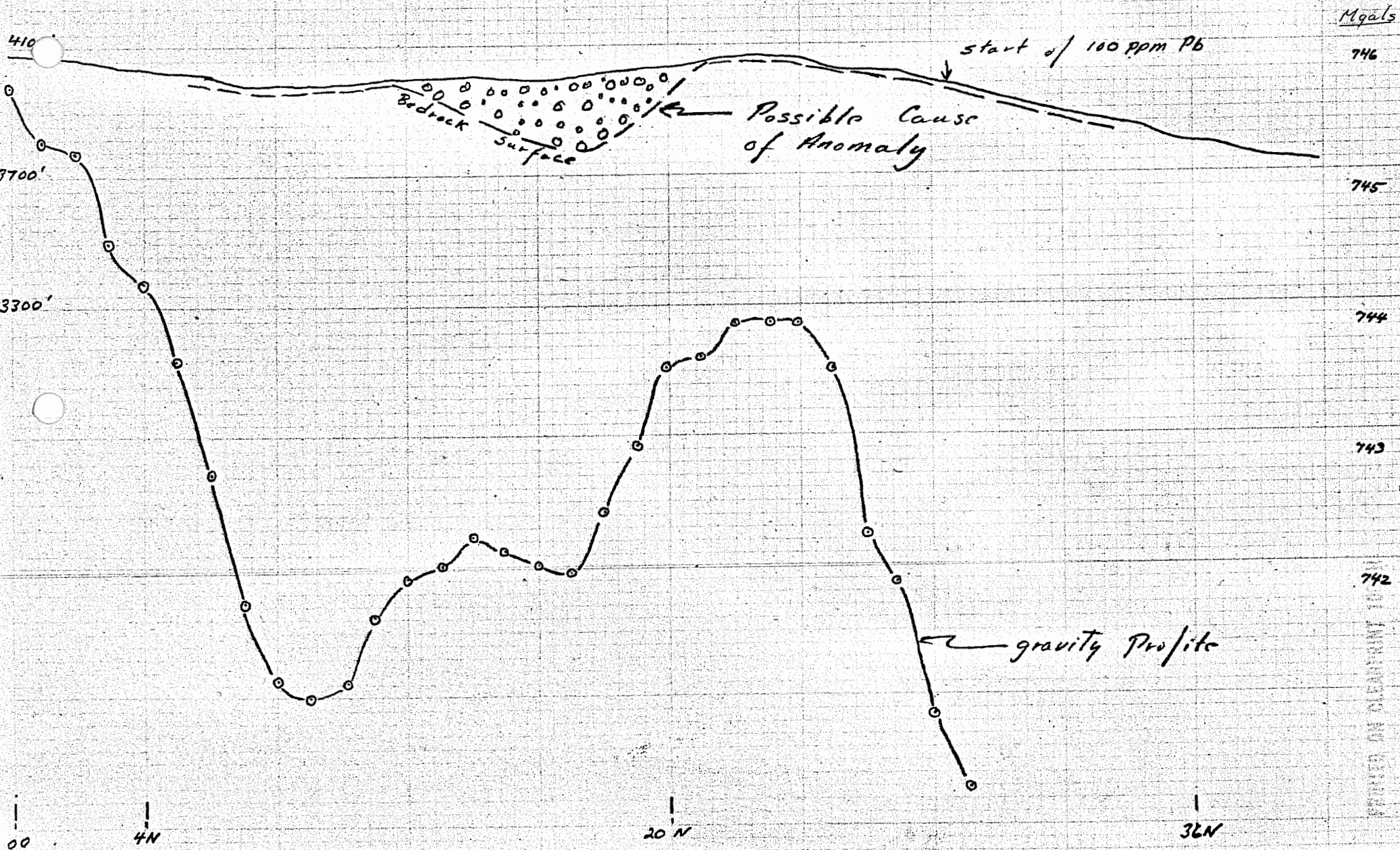
Kerr Addison Mines Ltd.  
Gravity profile - Lynn Cl. V.T.  
INTERPRETATION #1

1" = 400'  
1" = 1 mgals.



Kerr Addison Mines Ltd.  
Gravity Profile - Lynn Cl. YT  
INTERPRETATION #2

Scale 1" = 400'  
1" = 1mgal.



PRINTED ON CLEARPRINT 10

AUG - 4 1970

**KERR ADDISON MINES LIMITED**

SUITE 405 - 1112 WEST PENDER STREET  
VANCOUVER 1, B.C.  
PHONE 682-7401

July 29, 1970

INS	
PMK	✓
GMH	✓
EDS	
SEN	
WDS	
WDR	
WTF	
E.C.J.	

Dr. Duncan Crone,  
Crone Geophysics,  
979 Lakeshore Road,  
Port Credit, Ontario.

Dear Duncan:

Paul Kavanagh has requested that I mail you all of the gravity data compiled by Overland Exploration Services of Calgary on a recent job we had on the Lyn Group in the Magundy River area of the Yukon.

Under separate cover we are mailing you a topographic plan, a Bouger plan, a base map, and all of the gravity calculations with the exception of the terrain correction charts which we do not have.

It is rather disconcerting that there are gravity anomalies coincident with all of the hilltops in the area. I have discussed this problem with Overland and they maintain that the terrain corrections did nothing to the Bouger profiles. They also tried different density fits in one or two cases and these apparently had little effect on the Bouger figures. Certainly it is hard to see how they could use a density greater than 3 for any of the known rock types on the property. The rock types by the way are phyllites with some intercalated limestones. On the extreme north portion of the survey, there are granitic gneisses but I can't think that these gneisses have anything to do with the anomalies on the hilltops.

The only reason we are considering pursuing these anomalies further is that downslope on the north side from the anomaly on Line 134 is a geochemical fan much like the one at Swim Lakes. There is therefore some possibility that there could be a heavy mass which is coincident with a hilltop.

(continued - Page 2)

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SUITE 408 - 1112 WEST PENDER STREET  
VANCOUVER 1, B.C.  
PHONE 682-7401

- 2 -

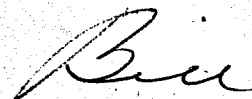
There is a severe gradient in the order of 8 milligals per thousand feet on the north slope of the hill and there is no obvious geologic reason for such a gradient unless it simply reflects the presence of the Tintina Trench to the north.

In the trenching that has been done on the property thus far, only narrow stringers of lead-zinc mineralization have been found but sometimes these narrow stringers emanate from a much larger mass and we therefore must be very sure that nothing is overlooked. In the case of the anomaly on Line 134, we recognize that the north side is purely a reflection of the gradient but the south side would have to result from a buried valley having a depth of approximately 200 feet. We can probably determine whether or not such a bedrock depression exists by using resistivity profiling which we can do with our I.P. set.

It is difficult to think of these anomalies as being representative of massive mineralization in view of their coincidence with topography. We would however appreciate your comments in this regard. By the way, all of the rocks dip southwestward at approximately 25°.

Best regards,

Yours sincerely,



W. M. Sirola.

WMS/1k