

3289

REGIONAL MAGNETOMETER AND GEOCHEMICAL SURVEY

ON THE

BULL CLAIM GROUP

LOCATED

NORTH OF CACHE CREEK, B. C.

121° 29' WEST LONGITUDE
50° 57' NORTH LATITUDE

FOR

WILLIAM M. MALLINSON
608-850 West Hastings Street
Vancouver, B. C.

BY

W. H. PIERRE, P. ENG.

RAF ENGINEERING CORPORATION LTD.
2502-1177 West Hastings St.
Vancouver, B. C.

JULY 29, 1971

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3289 MAP

TABLE OF CONTENTS

SUMMARY _____	PAGE 1
INTRODUCTION _____	PAGE 1
LOCATION _____	PAGE 2
TOPOGRAPHY _____	PAGE 3
GEOLOGY _____	PAGE 3
METHOD OF SURVEY _____	PAGE 3
MAGNETOMETER _____	PAGE 4
ANALYSIS OF DATA _____	PAGE 5
INTERPRETATION	
MAGNETOMETER SURVEY _____	PAGE 6
GEOCHEMICAL SURVEY _____	PAGE 7
CORRELATION _____	PAGE 8
CONCLUSION _____	PAGE 9
RECOMMENDATIONS _____	PAGE 10
LIST OF CLAIMS _____	PAGE 12
SUMMARY OF COSTS _____	PAGE 13
CERTIFICATE _____	PAGE 14

LIST OF MAPS

1 INDEX MAP _____	Following Page 2
2 BULL CLAIM GROUP _____	In Pocket
3 REGIONAL MAGNETOMETER MAP _____	In Pocket
4 REGIONAL GEOCHEMICAL MAP _____	In Pocket

Continued

LIST OF TABLES

TABLE 1	MAGNETOMETER OUTPUT DATA
TABLE 2	COPPER OUTPUT DATA
TABLE 3	ZINC OUTPUT DATA

SUMMARY

The primary objective in conducting a regional magnetometer and geochemical survey on the Bull Claim Group was to establish the following:

1. The existence of a NW-SE magnetic trend as previously deducted from government airborne magnetometer maps,
2. The usefulness of geochemistry as an exploration tool for this area,
3. Justification for expenditures on a detailed magnetometer and geochemical survey.

By means of a unique computer program developed by RAF Engineering Corporation Ltd. all of the above listed objectives were established in a very positive manner. A definite NW-SE magnetic trend was established which closely corresponds with the government airborne magnetometer maps and the findings of Geo-X Surveys Ltd. Further, results of the geochemical portion of the survey defined one major and two minor coincidental Cu-Zn anomalies. Thus there exists ample justification in conducting a detailed geochemical and magnetometer survey as outlined under STAGE 1 of the RECOMMENDATIONS.

INTRODUCTION

This report summarizes the results of a regional magnetometer and geochemical survey conducted on the Bull Claim Group held by Mr. William Mallinson. This survey was the initial exploration work for

these claims as they were not acquired until July, 1970. To the writer knowledge this area has never been prospected due to the lack of evidence of previous claim staking. The survey began on June 17, 1971 and was completed on June 30, 1971.

It should be mentioned that this survey was conducted on the entire Bull Claim Group comprising of 58 mineral claims. Of this group Mr. William Mallinson holds 40 mineral claims as indicated on the Bull Claim Group Map. Reference should also be made to "Mineral Claims" (p 12) which gives a detailed description of the claims. All references made to the Bull Claim Group within this report pertain to only those held by Mr. William Mallinson.

LOCATION

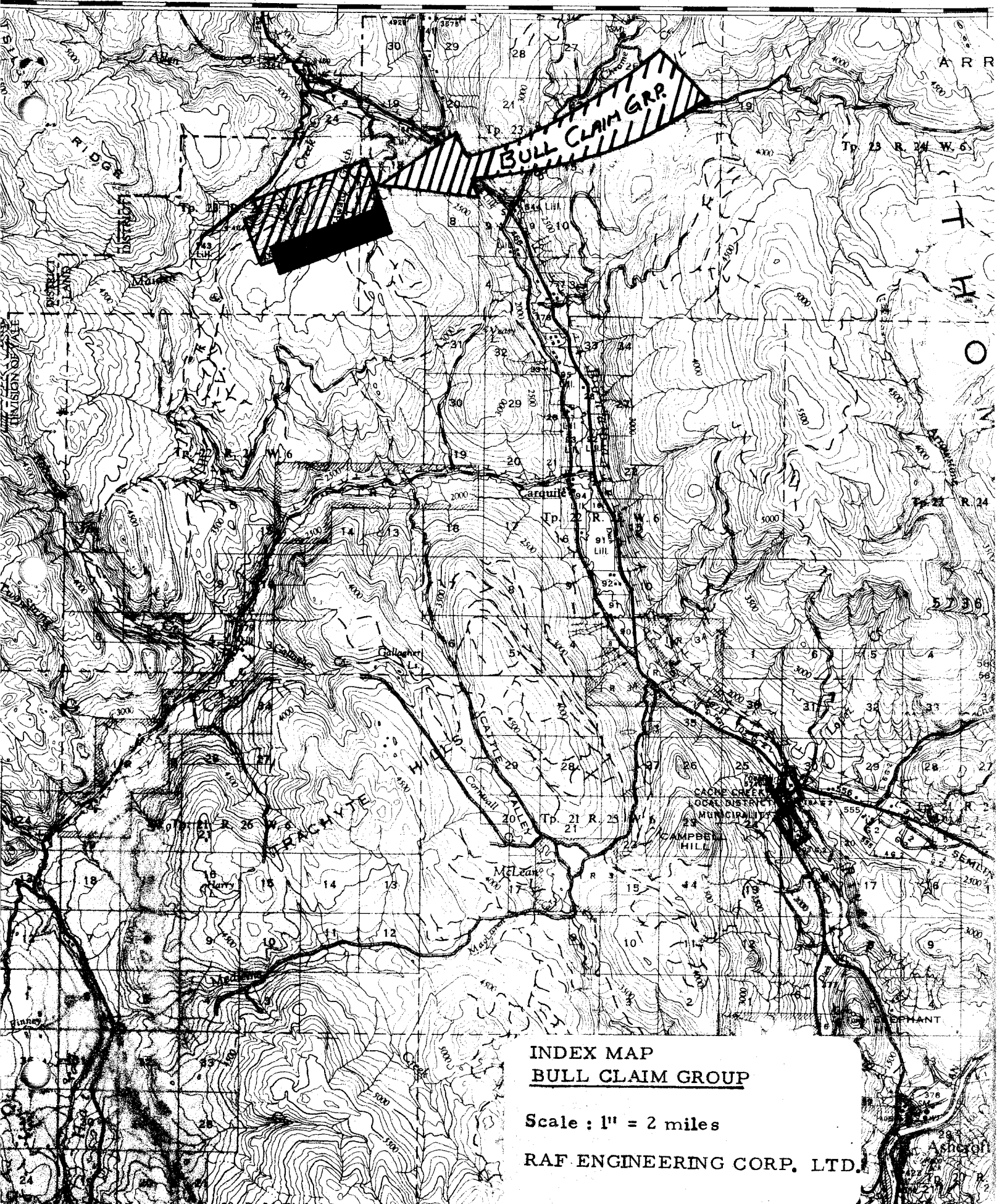
The Bull Claim Group is located approximately 11 miles northwest of Cache Creek, B. C. as the crow flies. More specifically it is located $50^{\circ} 57'$ North latitude and $121^{\circ} 29'$ West longitude.

Access is made by travelling north from Cache Creek along the Cariboo Highway (#97) a distance of 10 1/2 miles. This is approximately 1/2 mile beyond the Loon Lake turn-off. At this point one turns left leaving Highway #97 and heads in a southwesterly direction. The road immediately passes through a small ranch and after a distance of approximately 7 miles terminates at two small lakes. These lakes are located on Bull Claims held by Maru Uranium Mines Ltd. , however adjoining these to the north are the Bull Claims held by Mr. William Mallinson which from herein will be referred to as the Bull Claim Group.

To Clinton - 7 miles

30'

15'



**INDEX MAP
BULL CLAIM GROUP**

Scale : 1" = 2 miles

RAF ENGINEERING CORP. LTD.

(Refer to Bull Claim Group Map). Due to the relatively recent logging operations covering portions of the claim group access to most areas may be reached using 4-wheel drive vehicles.

TOPOGRAPHY

The Bull Claim Group essentially lies on a plateau whose mean elevation is approximately 4,000 ft. A. S. L. The topography slopes rather steeply to the north and east with local relief being approximately 1,000 ft. All drainage is directed to the north and flows into Maiden Creek which discharges into the Bonaparte River to the West. Only intermittent drainage exists with the only year-round water source being Maiden Creek.

Outcrops are restricted to the extreme southern portion of the claim group and consist primarily of limestone.

GEOLOGY

All geological refernces should be directed to D. W. Pringle's report dated October 20, 1970 as further geological work has not been carried out since that time.

METHOD OF SURVEY

As previously mentioned this report is based on a regional magnetometer and geochemical survey. This survey was conducted

along all mineral claim location lines and principle drainage areas where the later intersected the location lines. Magnetometer readings and soil samples were gathered at stations spaced approximately 200 ft. apart. All stations were flagged with red ribbon with respective station numbers indicated.

All soil samples were gathered within the "B" horizon using a hander auger. Due to this region being relatively dry and the fact that all drainage systems serve for snow and rain run-off only, nearly all samples taken were dry. Spectrographic analyses were taken on four samples, each representing an area of high or low elevation and extremely dry or damp areas respectively. Based on the results of these spectrographic analyses all soil samples were analyzed for copper and zinc using the atomic absorbtion method. All determinations were conducted at Coast Eldridge Laboratories Ltd., Vancouver, B. C.

MAGNETOMETER

The magnetometer used was a vertical fluxgate type manufactured by Scintrex Ltd. General specifications are as follows:

Model:	MF-2
Range:	1,000 - 100,000 gammas
Accuracy:	0.05% of full scale
Temp. Coiff:	less than 1/2 gamma/F ^o

ANALYSIS OF DATA

All data, both magnetometer and geochemical, was treated statistically by means of a unique program developed by RAF Engineering Corp. Ltd. It is felt that statistical evaluations are considerably more objective and meaningful than the normal subjective interpretations.

The program is developed such that it first calculates the basic statistics, i.e., mean, standard deviation, and range. It then plots a cumulative frequency table and histogram, which allows a visual inspection of the distribution type, i.e., skewed, log normal, bimodal, etc. Next standardized variables are calculated for each data station and plotted within a matrix that closely approximates its actual geographical position along the survey. Both the high matrix (positive) and the low matrix (negative) are plotted. These values, as they are calculated, are further treated with factors which tend to depress background values and emphasize statistical anomolous values. Every other page of the standardized variable output sheets within this report represents varying factors ranging from a minimum of 0.05 to a maximum of 5. Each standardized variable divided by the corresponding factor will yield the number of standard deviations from the mean for each station.

INTERPRETATION

MAGNETOMETER SURVEY (Refer Table 1)

Results of the magnetometer survey are quite encouraging in that they closely correspond with the findings of Geo-X Surveys Ltd. and the government airborne magnetometer maps. The histogram shows an obvious bimodal distribution consisting of two populations. One population (A) is considerably larger, with the majority of the readings less than the mean value of 1262.79 gammas. This could represent a large background population or possibly a large low population, however this can not easily be determined without detailed magnetometer survey over the entire claim group.

The standardized variable output sheets show four distinct anomolous zones and several minor zones. The strongest zones are found along locations lines on the Bull Nos. 1 mineral claims and along drainages on the Bull Nos. 40 and 37 mineral claims (Refer to Regional Magnetometer Map). Associated with these are several smaller zones located south of the larger ones. However the most interesting and, probably the most significant is the fact that a NW-SE trend exists. This can easily be ascertained upon a visual inspection of the standardized variable output sheets. When one compares both the high and low matrix for each factor there exists a definite trend from the lows in the northwest to highs in the southwest.

GEOCHEMICAL SURVEY (Refer. Table 2)

Copper

The histogram for copper indicates a population closely approximating a log normal distribution in that it is skewed to the left. Copper concentrations were extremely low - the largest being 106 ppm. This is not uncommon since similar or lower results have been gained from other properties within the same general area.

Results from the standardized variable sheets show six distinct anomolous zones. Of these two actually develop into a single larger zone when using a factor of 5. The remaining zones are quite small with the exception of one which could possibly be an extention of the single larger zone. Associated with these major zones are four minor zones. Three of these located in the western portion of the claim group are relatively large. The major zones are located along location lines on the Bull Nos. 21, 25, 27, 36 and 38 mineral claims and along a drainage passing through Bull Nos. 38 and 40 mineral claims. A predominant statistical trend exists from lows located in the east to highs in the west.

Zinc

The zinc histogram shows a multi-modal distribution consisting of at least two populations. As with the magnetometer data, the larger population (A) could very well represent background values with the other populations (B and C) representing anomolous type values.

Eight major zones result from the standardized variable tabulations. Of these, two actually form a single large zone, located in the southwestern portion of the claim group. The remaining zones are relatively small with the exception of two located in the western portion of the claim group. Associated with these major zones are four minor zones all located in the northwestern section of the claim group. The major zones are located along location lines on the Bull Nos. 11, 21, 23, 27, 29, 33, 35, and 37 mineral claims and drainages passing through the Bull Nos. 14 and 37 mineral claims. The zinc appears to trend from lows in the north east to highs in the southwest.

CORRELATION

As indicated on the Regional Geochem Map there is one large central area where anomolous copper and zinc zones coincide or overlap. Also associated with strong zinc znomolies located in the western portion of the claim group are associated coincidental minor copper anomolies. This is quite significant in that these zones represent the most favorable locations for mineralization and represent first order target areas for further investigations. It should also be noted that minor coincidental magnetic anomolies are also associated with the coincidental Cu-Zn anomoly located on the Bull No. 37 mineral claim.

The correlation between the statistical trends for copper and zinc are quite good in that they both trend in the same relative directions. However, stating that definite trends exist must be qualified. The survey conducted was regional only with 3,000 ft. widths between sample lines and assuming continuous trends over these unsampled

distances is unlogical. All that can be stated is that based on the samples taken and their geographical position statistical trends do exist with a good correlation.

CONCLUSION

The primary objective in conducting a regional magnetometer and geochemical survey on the Bull Claim Group were the following:

1. Does there exist a NW-SE magnetic trend as inferred by the government airborne magnetometer maps?
2. Would geochemistry prove to be a useful exploration tool for this area?
3. Based on the results of this survey would there be justification for further expenditures on a detailed geochemical and magnetometer survey?

As previously discussed the answers to the above questions are favorable. The results of this survey are extremely encouraging and there is ample justification for conducting a detailed geochemical and magnetometer survey. To some extent it is regretful that outcrops are not more predominant so that correlations between rock types and anomolous zones can be ascertained.

It must be emphasized that the anomolous zones developed are based solely on samples taken along location lines and drainages. Further exploration work would best be directed to a detailed geochemical and magnetometer survey rather than focusing all attention on the coincidental Cu-Zn anomolous zones as there exists the possibility of developing stronger and larger zones.

RECOMMENDATIONS

Because of the encouraging results gained from the regional magnetometer and geochemical survey the following recommendations, in particular STAGE 1, are strongly suggested.

All recommendations have been staged in a logical sequence with each stage being dependent upon results from the previous. In this manner costs may be maintained at a minimum and justification prior to initiating the succeeding stage may be made.

<u>STAGE 1</u>	<u>EST. COST.</u>
1. Detailed geochemical and magnetometer survey 66 line miles @ \$200/mile	\$ 13,200.00
2. Line cutting (500' grid) 66 line miles @ \$120/mile	7,920.00
3. Engineering and Administration	<u>2,000.00</u>
	\$ 23,120.00
 <u>STAGE II</u>	
1. Percussion drilling to delineate anomolous zones developed from STAGE 1 45 - 300 ft. holes 13,500 ft. @ \$3.00/ft.	\$ 40,500.00
2. Assaying 2,200 samples @ \$10/sample	22,000.00
3. Drill-site preparation 22 ^{1/2} days @ \$200/day	4,500.00
4. Engineering and Administration	<u>6,500.00</u>
	\$ 73,500.00

STAGE III

1. Diamond drilling to further delineate zones established in STAGE II. 4,500 ft. @ \$15/ft.	\$ 67,500.00
2. Assaying 900 samples @ \$10/sample	9,000.00
3. Engineering and Administration	<u>6,500.00</u>
TOTAL ESTIMATED COST	<u>\$ 179,620.00</u>

The estimated costs are approximate only and should not be considered to represent an exact cost. It should also be mentioned that drill footages are extremely difficult to estimate at this stage and should be considered an order of magnitude only.

LIST OF CLAIMS

12

BULL CLAIM GROUP

CLAIM	DATE STAKED	TAG NO.	DATE RECORDED	RECORDING NO.
Bull 1	June 25, 1970	76101 M	July 7, 1970	89936
Bull 2	"	76102 M	"	89937
Bull 3	"	76103 M	"	89939
Bull 4	"	76104 M	"	89940
Bull 5	"	76105 M	"	89941
Bull 6	"	76106 M	"	89942
Bull 7	"	76107 M	"	89943
Bull 10	June 28, 1970	76161 M	"	89946
Bull 11	June 25, 1970	76111 M	"	89947
Bull 12	"	76112 M	"	89948
Bull 13	"	76113 M	"	89949
Bull 14	"	76114 M	"	89950
Bull 15	"	76115 M	"	89951
Bull 16	"	76116 M	"	89952
Bull 17	"	76117 M	"	89953
Bull 18	"	76118 M	"	89954
Bull 19	June 28, 1970	76119 M	"	89955
Bull 20	"	76120 M	"	89956
Bull 21	"	76121 M	"	89957
Bull 22	"	76122 M	"	89958
Bull 23	"	76123 M	"	89959
Bull 24	"	76124 M	"	89960
Bull 25	"	76125 M	"	89961
Bull 26	"	76126 M	"	89962
Bull 27	"	76127 M	"	89963
Bull 28	"	76128 M	"	89964
Bull 29	"	76129 M	"	89965
Bull 30	"	76130 M	"	89966
Bull 31	"	76131 M	"	89967
Bull 32	"	76132 M	"	89968
Bull 33	"	76133 M	"	89969
Bull 34	"	76134 M	"	89970
Bull 35	"	76135 M	"	89971
Bull 36	"	76136 M	"	89972
Bull 37	"	76137 M	"	89973
Bull 38	"	76138 M	"	89974
Bull 39	"	76139 M	"	89975
Bull 40	"	76140 M	"	89976
Bull 41	"	76141 M	"	89977
Bull 42	"	76142 M	"	89978

SUMMARY OF COSTS

The following summarizes costs incurred by Mr. William M. Mallinson for the regional magnetometer and geochemical survey as discussed in this report.

1. Regional Magnetometer and Geochemical Survey (RAF Eng. Corp. Ltd.)	\$ 2,700.00
2. Topographical Map (Lockwood Survey Corp. Ltd.) 1" = 1,000 ft.	310.00
3. Airborne Magnetometer Survey (Geo-X Surveys Ltd.)	345.00
4. Magnetometer Rental (Scintrex Ltd.)	112.00
5. Room and Board (8 man-days @ \$12.50/day)	100.00
6. Regional Magnetometer and Geochemical Survey Report (RAF Eng. Corp. Ltd.)	750.00
	<hr/>
	\$ <u>4,317.00</u>

RESPECTFULLY SUBMITTED

W. H. Pierre

W. H. PIERRE, P. ENG.
MINING ENGINEER

CERTIFICATE

I, WILLIAM H. PIERRE, of the city of Richmond, British Columbia,

do hereby certify that:

1. I am a graduate of the Montana School of Mines,
(B. Sc. in Mining Engineering, 1968).
2. I am a Registered Professional Engineer of the
Province of British Columbia.
3. I am an EIT, State of Montana Board of Registration
for Professional Engineers and Land Surveyors.
4. I am a member of the Canadian Institute of Mining
and Metallurgy, and the American Institute of
Mining, Metallurgical, and Petroleum Engineers.
5. I have practiced my profession since 1968 with
Kennecott Copper Corporation, Mobil Oil Corporation,
and RAF Engineering Corporation Ltd.
6. I personally supervised the work as described in this
report.

Table 1

PRINT BUSINESS FORMS LTD

MAGNETOMETER OUTPUT DATA

MEAN ■ 1262.79
STAND.DEV ■ 210.43
HIGH ■ 2000.00
LOW ■ 660.00
RANGE ■ 1340.00



CUMULATIVE FREQUENCY TABLE

BOUNDARY	CUM. FREQUENCY	REL. CUM. FREQUENCY
500.0	.0	
600.0	.0	.0
700.0	1.0	.3
800.0	4.0	1.4
900.0	7.0	2.4
1000.0	16.0	5.6
1100.0	43.0	15.1
1200.0	99.0	34.9
1300.0	170.0	60.0
1400.0	212.0	74.9
1500.0	229.0	80.9
1600.0	257.0	90.6
1700.0	272.0	96.1
1800.0	281.0	99.2
1900.0	282.0	99.6
2000.0	282.0	99.6
2100.0	283.0	100.0
2200.0	283.0	100.0
2300.0	283.0	100.0

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY



HISTOGRAM FOR MAGNETOMER READINGS

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

500.0

600.0

700.0

800.0

900.0

1000.0

1100.0

1200.0

1300.0

1400.0

1500.0

1600.0

1700.0

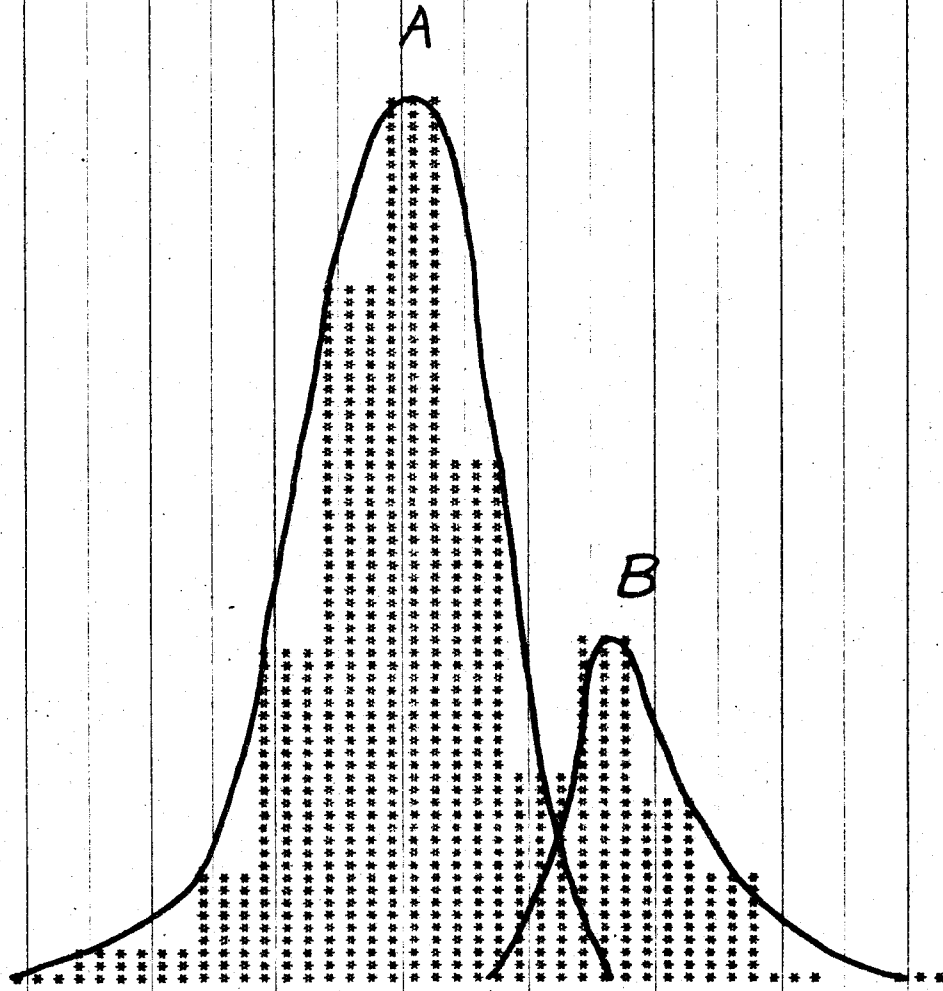
1800.0

1900.0

2000.0

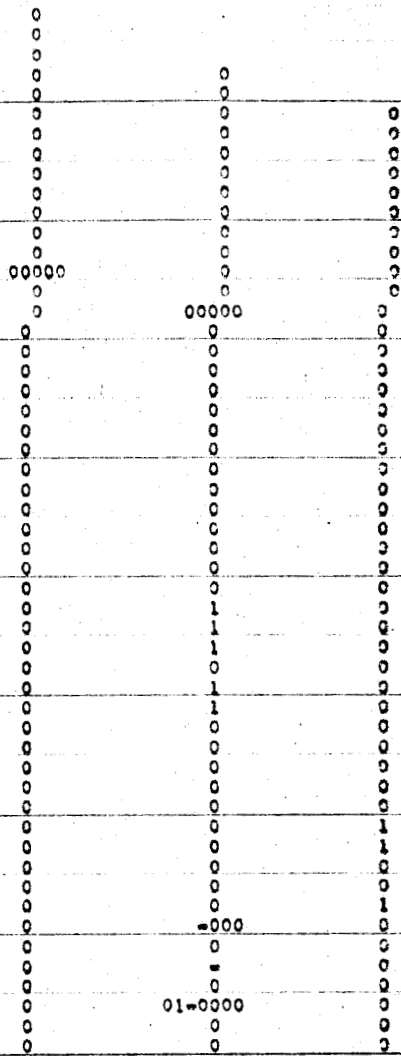
2100.0

2200.0

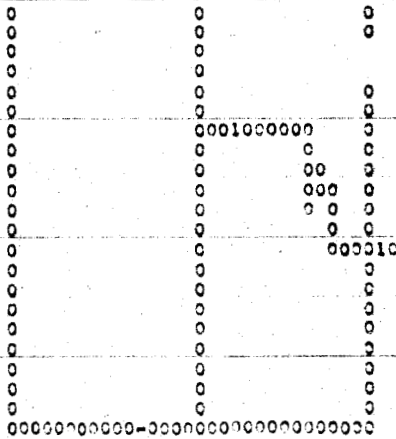


LEVEL MATRIX HIGH

FACTORS = .5 STANDARD DEVIATIONS

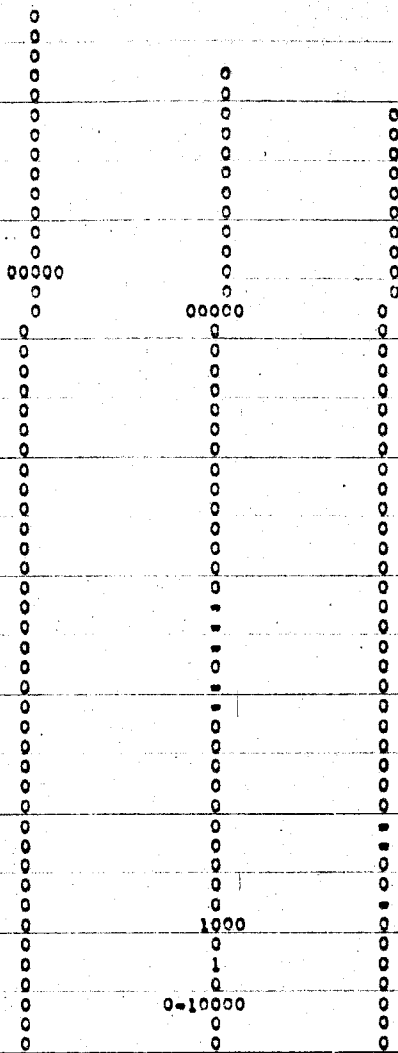


BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

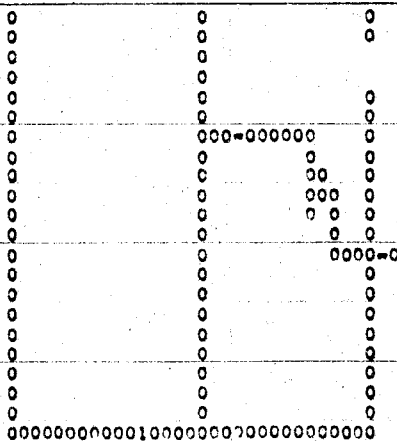


LEVEL MATRIX LOW

FACTOR = .5 STANDARD DEVIATIONS

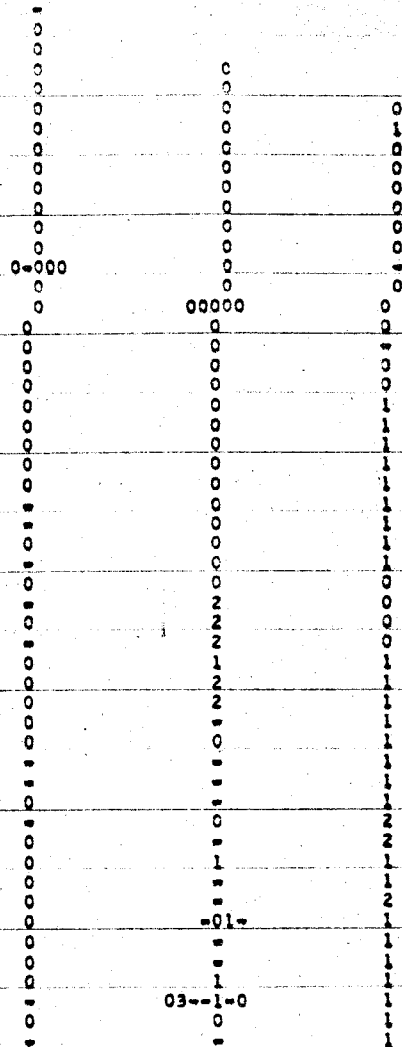


BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

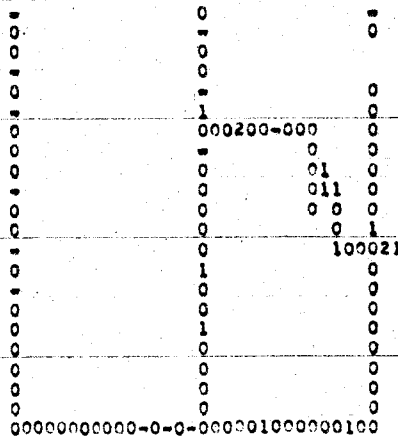


LEVEL MATRIX HIGH

FACTOR = 1.0 STANDARD DEVIATIONS

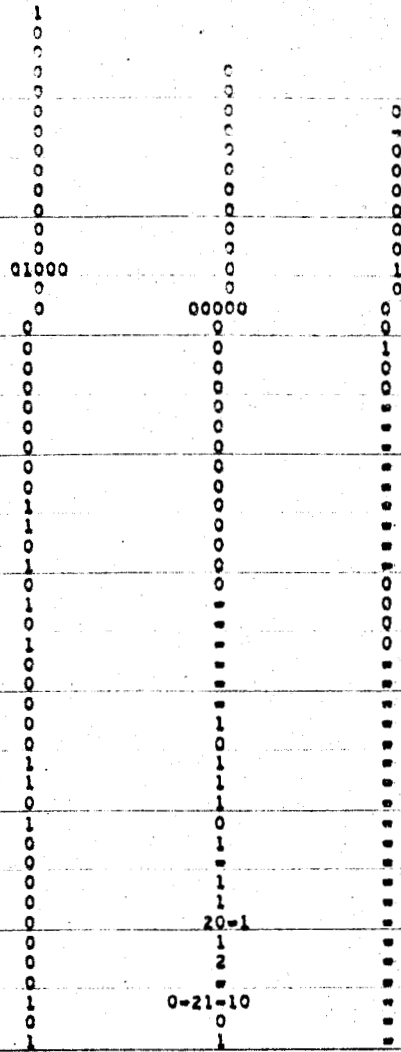


BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

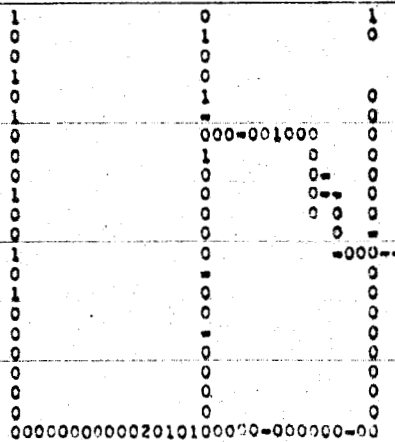


LEVEL MATRIX LOW

FACTOR = 1.0 STANDARD DEVIATIONS

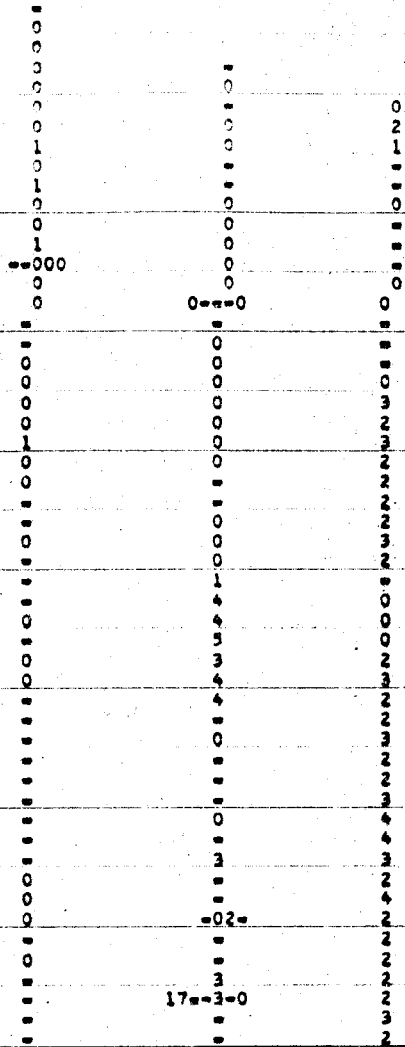


BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

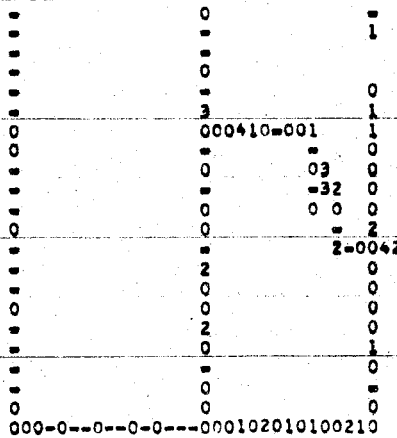


LEVEL MATRIX HIGH

FACTOR = 2.0 STANDARD DEVIATIONS

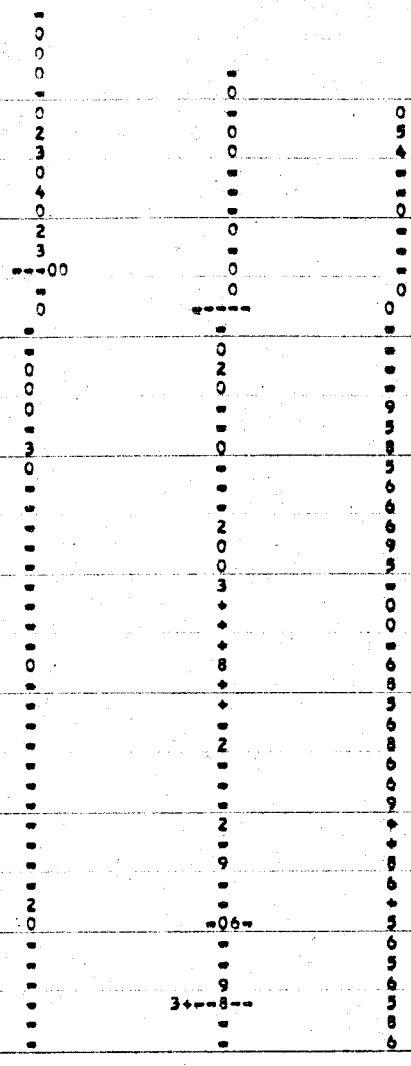


BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

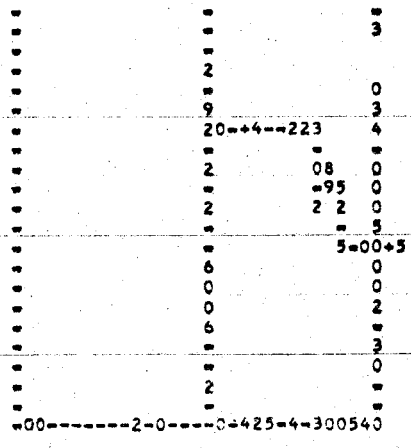


LEVEL MATRIX HIGH

FACTOR • 5.0 STANDARD DEVIATIONS



BRITISH COLUMBIA INSTITUTE OF TECH



CUMULATIVE FREQUENCY TABLE

BOUNDARY	CUM. FREQUENCY	REL. CUM. FREQUENCY
.0	.0	
6.0	93.0	32.9
12.0	176.0	62.4
18.0	214.0	75.8
24.0	241.0	85.4
30.0	257.0	91.1
36.0	263.0	93.2
42.0	271.0	96.0
48.0	273.0	96.8
60.0	278.0	98.5
66.0	278.0	98.5
72.0	279.0	98.9
78.0	281.0	99.6
84.0	281.0	99.6
90.0	281.0	99.6
96.0	281.0	99.6
102.0	281.0	99.6
108.0	282.0	100.0

COPPER OUTPUT DATA

TABLE 2



MEAN = 18.74

STAND. DEV = 13.24

HIGH = 106.00

LOW = 6.00

RANGE = 100.00

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY COMPUTING CENTRE



	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
10.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
20.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
30.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
40.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
50.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
60.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
70.0	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
80.0	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
90.0																						
100.0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
110.0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
120.0																						
130.0																						
140.0																						
150.0																						
160.0																						
170.0																						

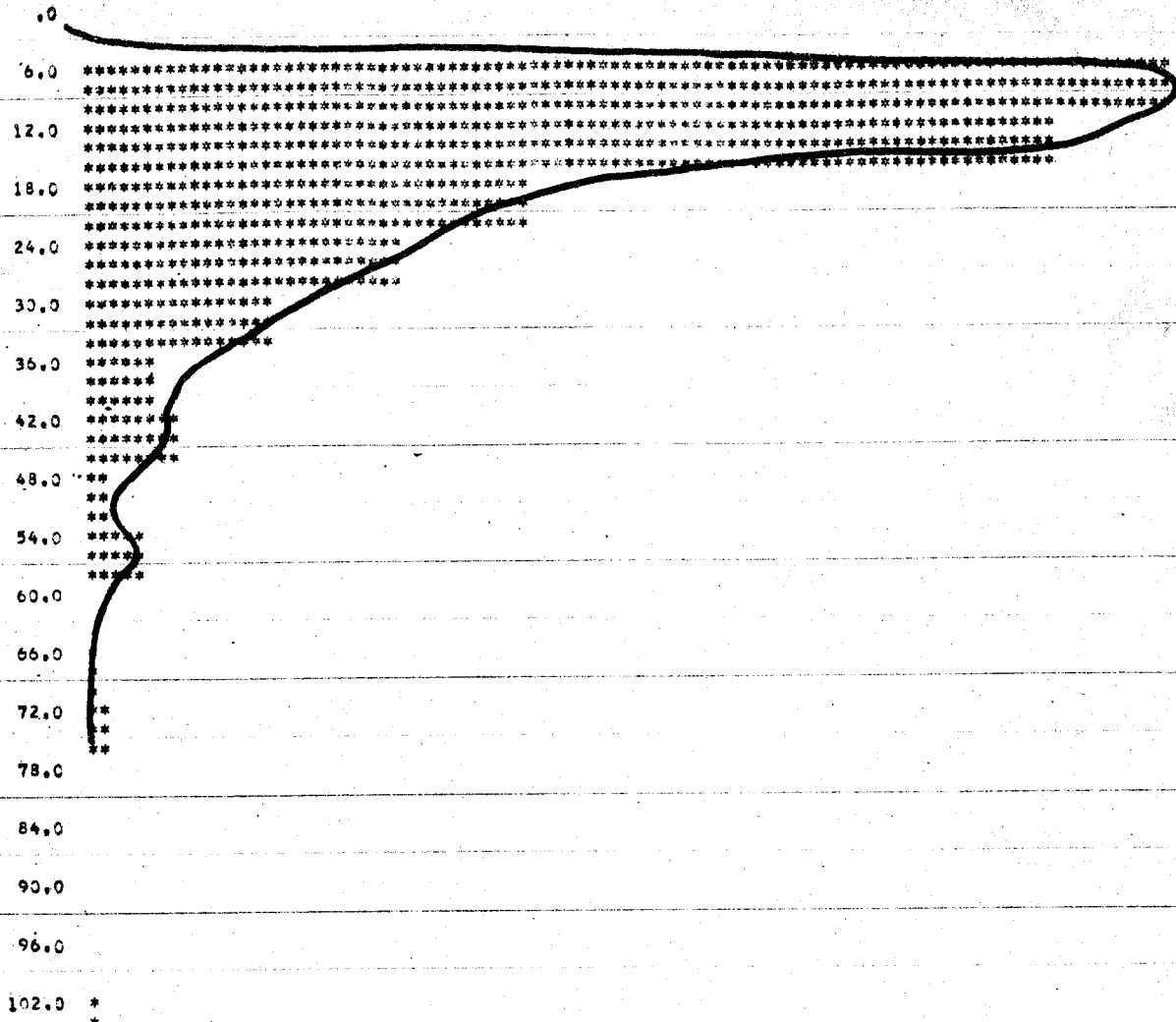
CUMULATIVE FREQUENCY TABLE

BOUNDARY	CUM. FREQUENCY	REL. CUM. FREQUENCY
.0	.0	
10.0	57.0	20.2
20.0	193.0	68.4
30.0	241.0	85.4
40.0	262.0	92.9
50.0	271.0	95.0
60.0	278.0	98.5
70.0	278.0	98.5
80.0	281.0	99.6
90.0	281.0	99.6
100.0	281.0	99.6
110.0	282.0	100.0
120.0	282.0	100.0
130.0	282.0	100.0
140.0	282.0	100.0
150.0	282.0	100.0
160.0	282.0	100.0
170.0	282.0	100.0
180.0	282.0	100.0

Table 2 Page 4



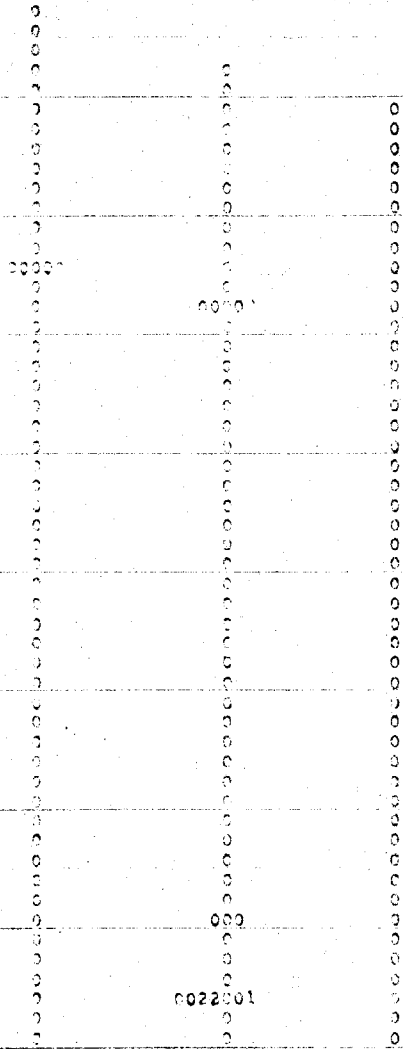
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100



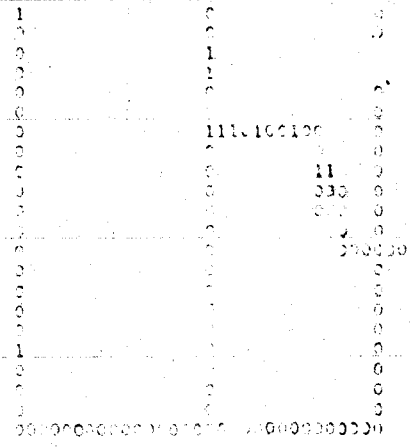
108.0 *

LEVEL MATRIX HIGH

FACTOR .5 STANDARD DEVIATIONS



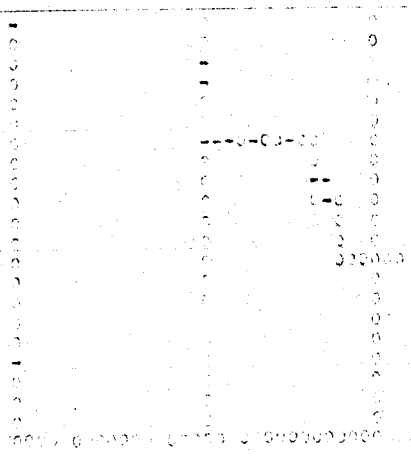
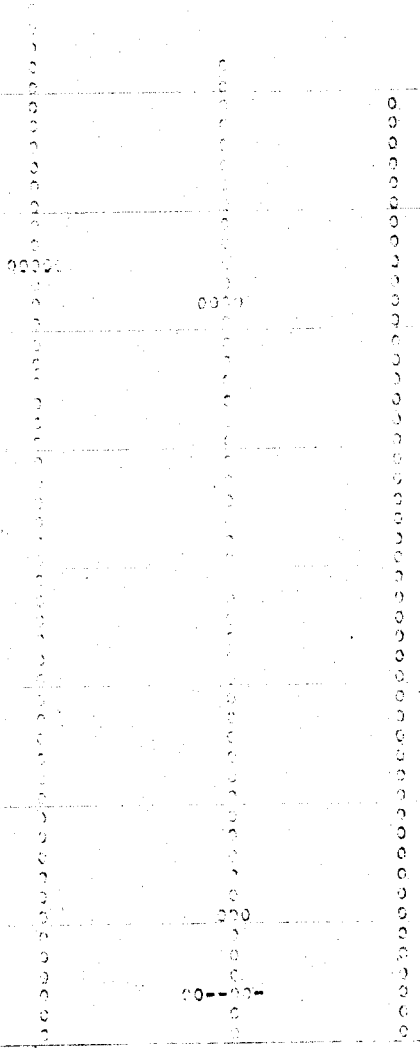
BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY



LEVEL MATRIX

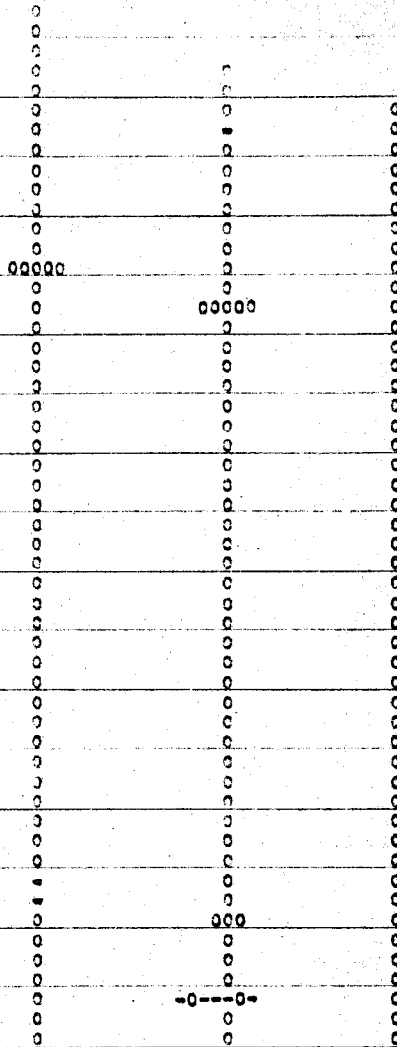
FACTORS 1.5 STANDARD DEVIATIONS

P.C

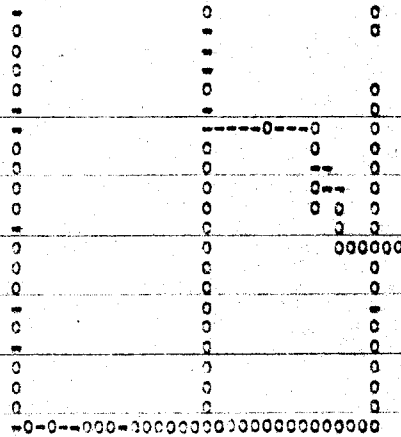


LEVEL MATRIX LOW

FACTOR = 1.0 STANDARD DEVIATIONS



BRITISH COLUMBIA INSTITUTE OF TEC



LEVEL MATRIX LOW

FACTOR = 5.0 STANDARD DEVIATIONS

2		
0		
0		
1	1	
3	1	4
2	1	2
3	1	3
3	4	3
2	4	2
3	1	1
3	2	4
0=00-	1	3
3	2	1
2	14=23	4
2	2	2
3	3	1
0	2	3
0	3	1
0	0	3
2	4	2
1	2	4
4	4	2
4	3	0
2	3	2
4	2	2
4	2	0
3	4	2
4	1	1
4	4	2
4	0	0
4	1	4
4	2	0
0	3	2
4	4	1
1	4	4
2	3	2
0	2	2
1	3	4
3	2	2
2	4	2
2	3	2
4	3	1
4	3	3
4	102	3
4	1	4
4	0	2
4	0	2
4	0	3
4	0	3
4	0	3
4	0	3



BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

4			1
4			1
4			0
1	0		2
4	0		1
4	1	0	2
4	0		2
4	1	0	1
4	3	034310	1
4	2		1
0	1		0
4	1		2
4	4		2
4	0		1
4	3		4
4	3		4

4-0--00--112001042123444430234

SL001 0A004828 00385E ERROR STATEMENT NUMBER 0003

SL001 09000000 00385E ERROR STATEMENT NUMBER 0003

TABLE 3

MOORE BUSINESS FORMS CO.

ZINC OUTPUT DATA

MEAN ■ 139.37
STAND. DEV ■ 60.36
HIGH ■ 325.00
LOW ■ 20.00
RANGE ■ 305.00

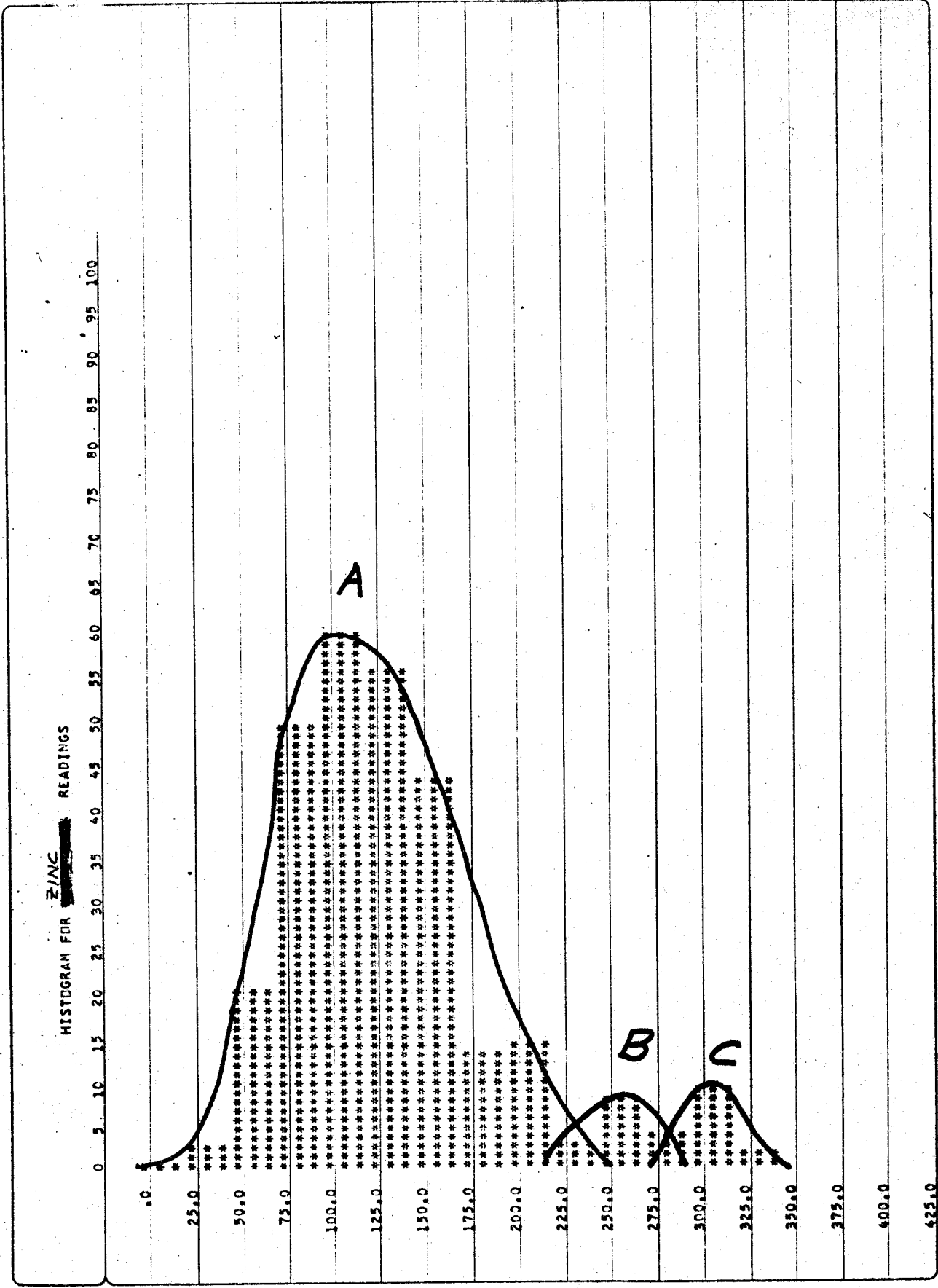


CUMULATIVE FREQUENCY TABLE

BOUNDARY	CUM. FREQUENCY	REL. CUM. FREQUENCY
.0	.0	
25.0	1.0	.3
50.0	4.0	1.4
75.0	24.0	8.4
100.0	73.0	25.7
125.0	132.0	46.6
150.0	187.0	66.0
175.0	230.0	81.2
200.0	243.0	85.8
225.0	257.0	90.8
250.0	260.0	91.8
275.0	268.0	94.6
300.0	272.0	96.1
325.0	281.0	99.2
350.0	283.0	100.0
375.0	283.0	100.0
400.0	283.0	100.0
425.0	283.0	100.0
450.0	283.0	100.0

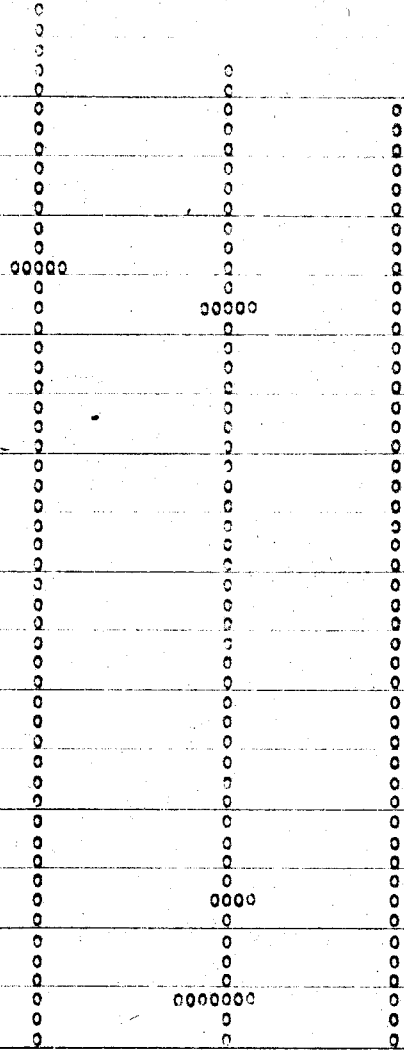
Table 3 Page 2



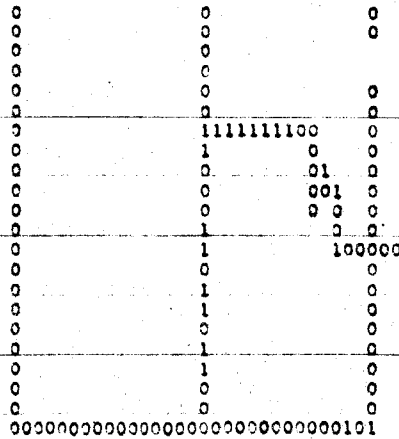


LEVEL MATRIX HIGH

FACTOR = .5 STANDARD DEVIATIONS

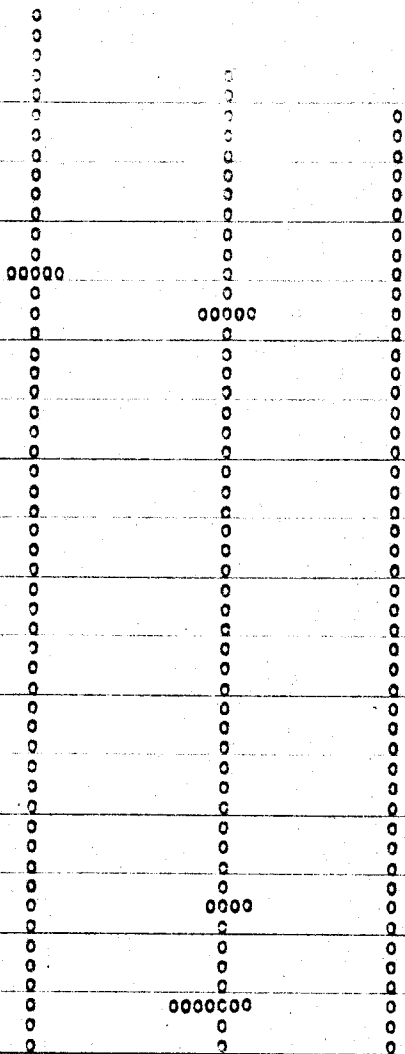


BRITISH COLUMBIA INSTITUTE OF TECHNOLOG

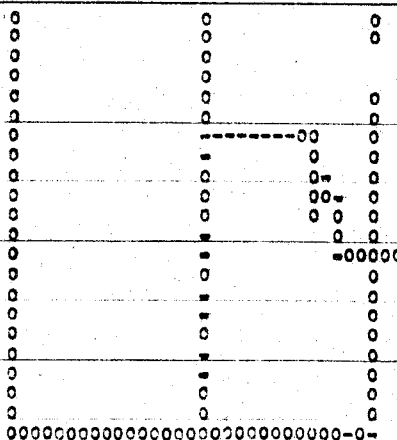


LEVEL MATRIX LOW

FACTOR = .5 STANDARD DEVIATIONS

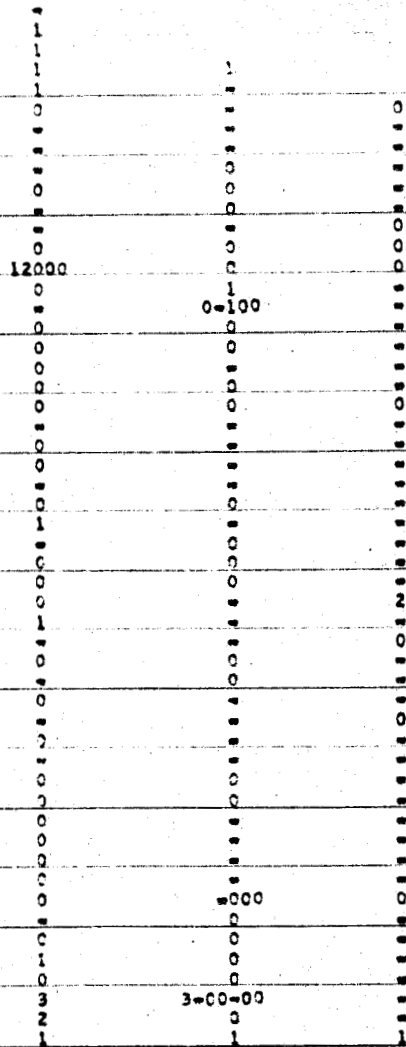


BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

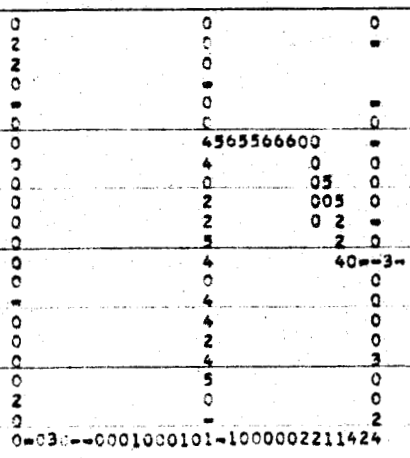


LEVEL MATRIX HIGH

FACTOR = 2.0 STANDARD DEVIATIONS

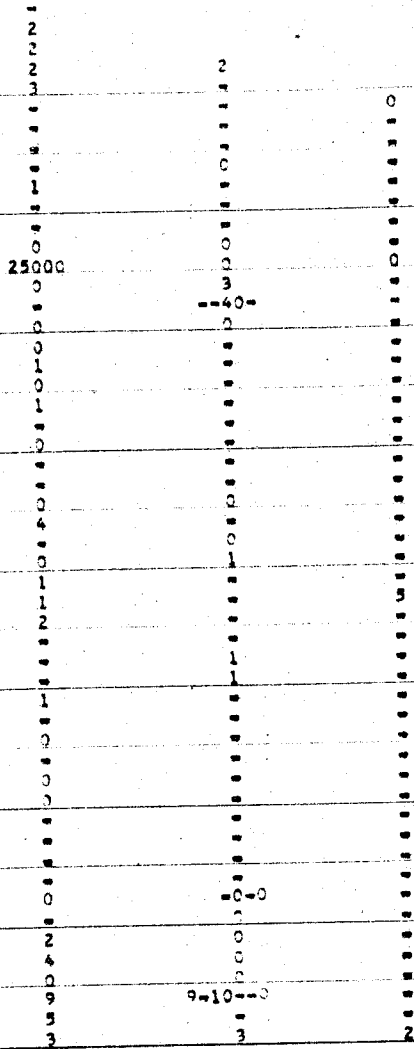


BRITISH COLUMBIA INSTITUTE OF TECH

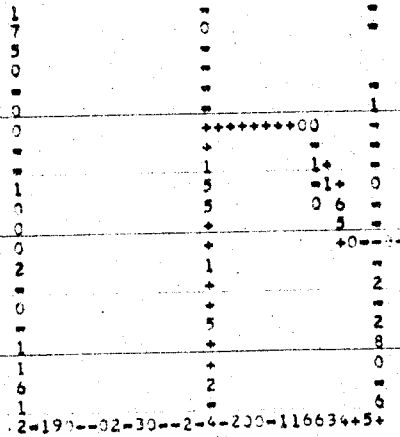


LEVEL MATRIX HIGH

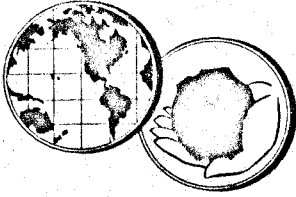
FACTOR = 3.0 STANDARD DEVIATIONS



BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY



.2-197--02-30--2-4-230-116634+5+



RAF ENGINEERING CORPORATION LTD.
Mineral Exploration Services

2502 - 1177 WEST HASTINGS STREET, VANCOUVER, B.C. TELEPHONE 604-684-7521

Árpád Fülstös B.S.F. / For Eng., B.Sc.
 Geologist

William Pierre B.Sc.
 Mining Engineer

October 26, 1971

Mr. R.H. McCrimmon
 Chief Gold Commissioner
 Dept. of Mines & Petroleum Resources
 Parliament Buildings
 Victoria, B. C.

Dear Mr. McCrimmon:

RE; File No. 166 - Kamloops

Please accept my apologies in overlooking question No. 2 regarding the magnetometer data. All readings are in gammas and have been corrected for diurnal variations.

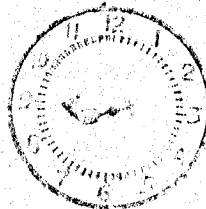
Yours very truly,

William H. Pierre 12066

William H. Pierre, P. Eng.

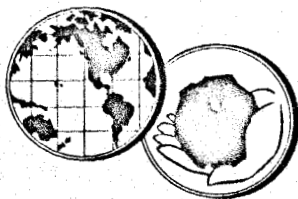
WHP/mab

OCT 28 '71 AM



DEPT. OF MINES
 AND PETROLEUM RESOURCES

REFERENCE	INITIAL
D. P.	
G.G.D.	✓
G.C.	
D.G.G.	
D.S.C.	
ACCTS.	
C.M.B.	
C.J.	
C.A.	
R. T.	
C.P.E.	



RAF ENGINEERING CORPORATION LTD.

Mineral Exploration Services

2502 - 1177 WEST HASTINGS STREET, VANCOUVER, B.C. TELEPHONE 604-684-7521

Árpád Flústós B.S.F. / For Eng., B.Sc.
Geologist

William Pierre B.Sc.
Mining Engineer

October 19, 1971

INITIAL	
D. M.	
C. M. B.	✓
C. C.	
C. G. G.	
D. G. G.	
A. G. G.	
M. B.	
C. I.	
C. A.	
R. T.	
C. P. E.	

Mr. R. H. McCrimmon
Chief Gold Commissioner
Dept. of Mines & Petroleum Resources
Parliament Buildings
Victoria, British Columbia

Dear Mr. McCrimmon:

RE: File No. 166 - Kamloops

The following will hopefully answer all questions requested in your above referred letter dated October 7, 1971. Please pardon my delay in responding to your request, however I have been out of town during the past ten days.

- 1) All diurnal variations for the magnetometer were treated in the usual fashion by balancing the daily variations equally with all readings for each day.
- 2) The Regional Magnetometer Map referred to is the Aeromagnetic Series, Map 5219G, sheet 921/14.
- 3) All values shown on the Regional Geochemical Map are actual determinations for copper and zinc in parts per million (ppm).
- 4) Please refer to the enclosed letter from Mr. B. B. Singh, Manager, Chemical Dept., of Warnock Hersey International Ltd. for the atomic absorption method used on the soil samples.

OCT 20 '71 AM

Con't.....

11655



DEPT. OF MINES
AND PETROLEUM RESOURCES

5) The footages for both the magnetometer and geochemical survey as indicated on the Certificate of Work Affidavits for Maru Uranium Mines Ltd. and Mr. William M. Mallinson are in error. I am grateful for your department in noticing this discrepancy as it was obviously unintentional. The correct footages should read 18,400 ft. and 41,500 ft. for Maru Uranium Mines Ltd. and Mr. William M. Mallinson respectively. Since separate geochemical and magnetometer surveys were conducted, our rates of \$135/line mile apply to each.

The following calculations represent the adjusted costs for both Maru Uranium Mines Ltd. and Mr. William M. Mallinson,

MARU URANIUM MINES LTD.

$$\frac{(18,400 \text{ ft.}) (\$135/\text{line mile}) (2)}{(5,280 \text{ ft. /mi.})} = \$940.00$$

Adjusted cost: \$1215.00
 940.90
 \$ 274.10

Allowable costs for Assessment Work:

 \$1962.00
 274.00 adj.
 \$1688.00

Balance of monies required to maintain claims in good standing:

18 claims @\$100/claim
 \$1800.00
 1688.00
 \$ 112.00

MR. WILLIAM M. MALLINSON

$$\frac{(41,500 \text{ ft.}) (\$135/\text{line mile}) (2)}{(5,280 \text{ ft. /mi.})} = \$2,122.15$$

Adjusted cost: \$2,700.00
 2,122.15
 \$ 577.85

Con't.....

Allowable costs for Assessment Work:

\$4,317.00
577.00
\$3,740.00

Balance of monies required to maintain claims in good standing:

40 claims @ \$100/claim
\$4,000.00
3,740.00
\$ 260.00

Again, I appreciate your department's noting the above footage discrepancies. I have personally discussed the situation with both parties and assume full responsibility. I trust that you will find these corrections acceptable and upon your acknowledgement a cheque will be forwarded so that all claims may remain in good standing.

Yours very truly,

W. H. Pierre

W. H. Pierre, P. Eng.

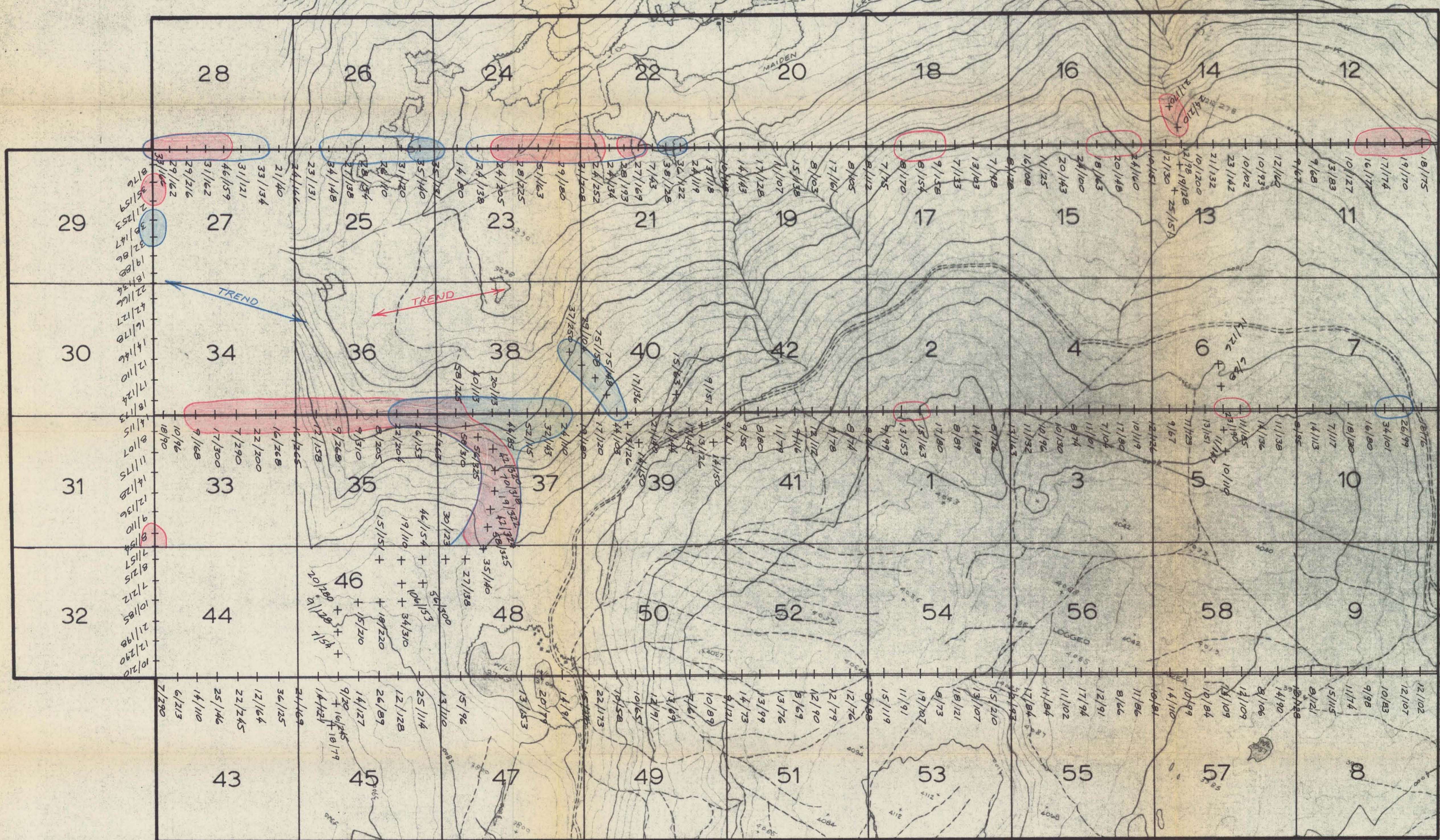
WHP/mab
cc Maru Uranium Mines Ltd.
Mr. William M. Mallinson

GEOCHEMICAL ANALYSIS

Routine Digestion Procedure for Soils

A one gram fraction of -80 mesh soil sample is digested in a mixture of nitric/perchloric acid. Approximately 95 % of the metal contained in the sample is brought into solution by digesting the sample at approximately 200°C for about three hours. Efficiency of the digestion is indicated by colour of the insoluble materials in the acid solutions.

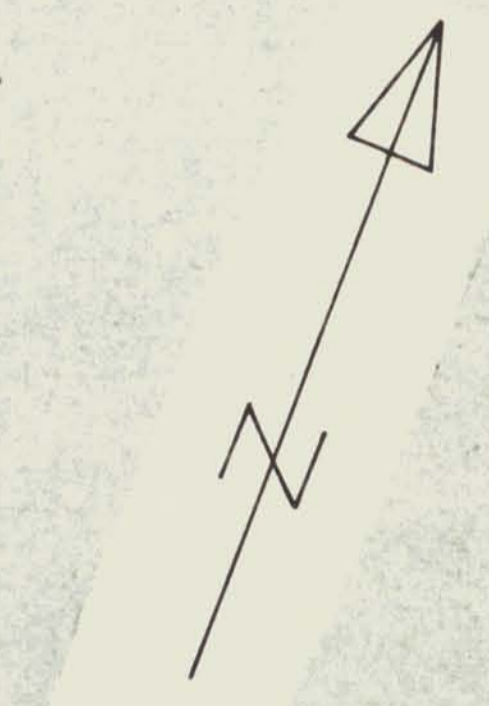
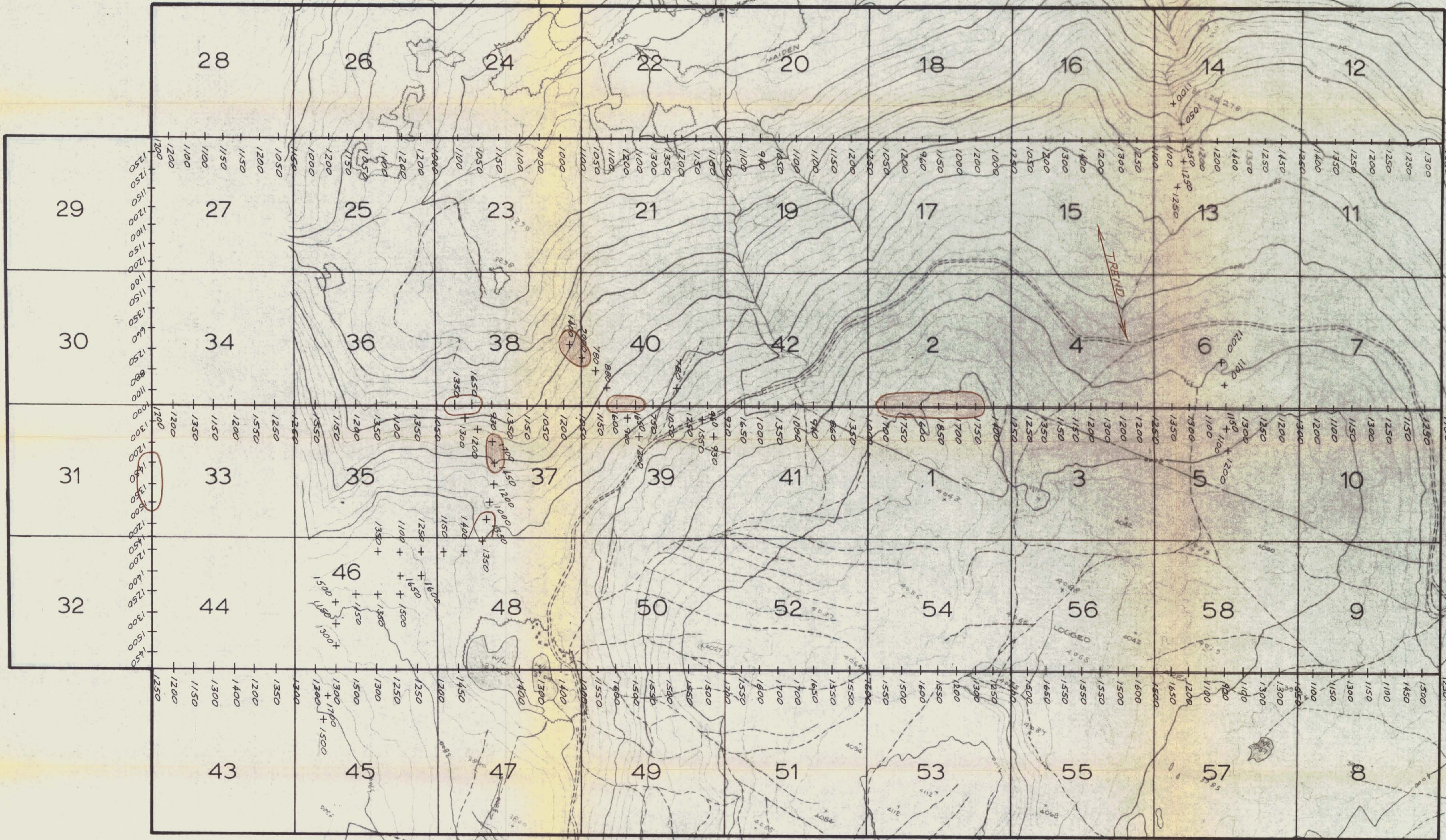
B. Blum
Manager, Chemical Dept.



- LEGEND**
- MAJOR CU ANOMALY.
 - MINOR CU ANOMALY.
 - MAJOR ZN ANOMALY.
 - MINOR ZN ANOMALY.
 - COINCIDENTAL CU-ZN ANOMALY.

WILLIAM M. MALLINSON		
REGIONAL GEOCHEM. MAP(Cu/Zn)		
Scale: 1" = 500'	Drawn: W.H.P.	RAF ENGINEERING CORP. LTD.
Date: July 13, 1971	Checked: W.H.P.	<i>W.A. Perre</i> P.Eng.

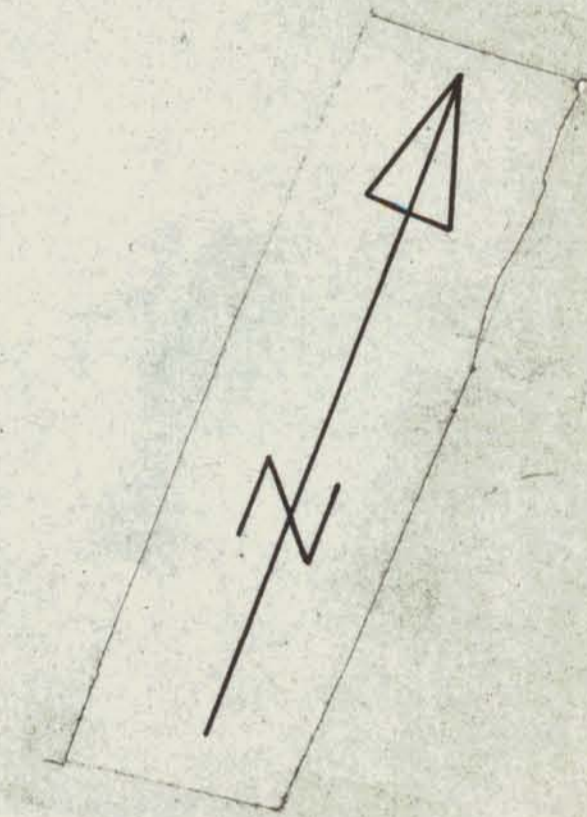
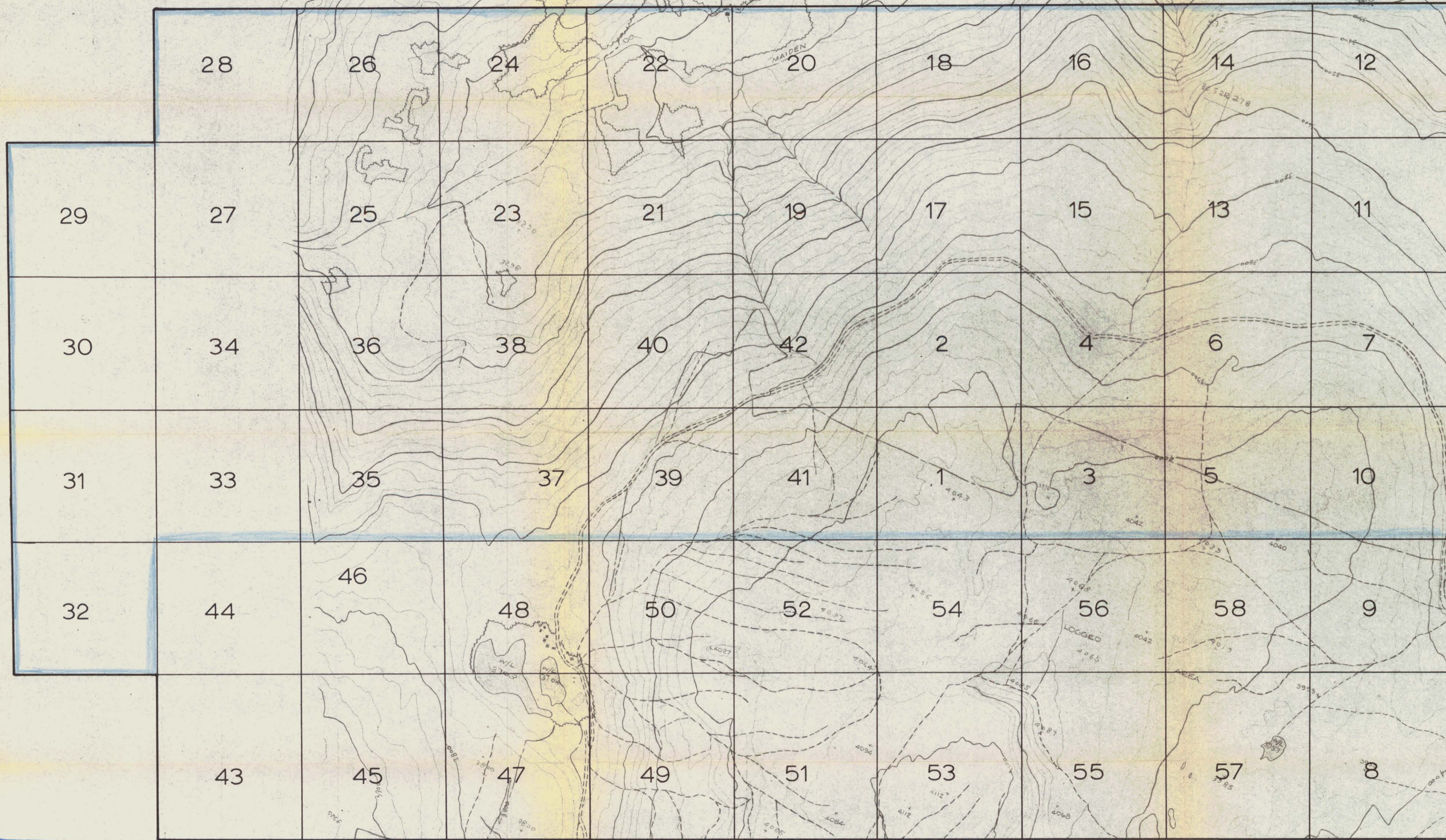
3289 M-4



LEGEND
 ● MAJOR ANOMALY.
 ○ MINOR ANOMALY.

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 3289 MAP #3

WILLIAM M. MALLINSON
 REGIONAL MAGNETOMETER MAP
 Scale: 1" = 500' Drawn: W.H.P. RAF ENGINEERING CORP. LTD.
 Date: July 13, 1971 Checked: W.H.P. *W.A. Perre* P.Eng.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3289 MAP

3289 M-2

WILLIAM M. MALLINSON

BULL CLAIM GROUP

Scale: 1" = 500'	Drawn: W.H.P.	RAF ENGINEERING CORP LTD.
Date: July 19, 1971	Checked: W.H.P.	<i>W.H. Parre</i> P.Eng.